The Builder.

VOL. LXXVIII., No. 2795. JUNE 30, 1900.

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Congress Commentaries.

THE papers read at the Architectural Congress last week, and the discussions which have taken place on them, have not only been the occasion of furnishing a good deal of interesting reading, but have contained a great amount of suggestion for the improvement and advancement of architecture; and even if it may be difficult to see how to arrive at the practical application of some of this suggestion, the mere promulgation and discussion of opinions on important questions connected with architecture may not be without its indirect influence on public and professional feeling.

The first paper of the Congress, that by the President of the Institute, on "The Official Control of Public Buildings," was one of the most practical, since it deals with a subject in regard to which something may be done, in a manner which can be formulated and defined; and it was incidentally useful also in bringing together some general information as to the extent and nature of public control architecture at present existing in other countries. It appears from this summary that several nations at the present time go considerably beyond anything that has ever been suggested or attempted in England in regard to the control of public architecture. In France, as we all know, there is a Department or Ministry Fine Art; and in regard to Paris, as distinguished from France, there is an Art Committee of the Municipal Council, which exercises a control over municipal art, as the Ministry of Fine Arts exercises a control over monuments belonging to the State. Italy has her "Commissione Edilizia" in each city, which has in fact almost exactly the same function as the Art Committee of the Paris Municipal Council. In London we only attempt to control buildings in regard to questions of construction, sanitation, height, and building line—questions in short, which touch on public safety and convenience. In Berlin it appears that this is also the case, since judges have refused to consider the question of disfigurement as capable of legal definition; but it appears that there is a growing dissatisfaction with this condition of things, and that steps are being taken to amend the law in this particular.

The desirability of some kind of æsthetic control being exercised over public buildings has been urged in our own columns, repeatedly, for at least a quarter of a century back, so that there is nothing new in the idea as far as we are concerned; and among architects and other artists there will probably be found to be a considerable consensus of opinion in that direction at the present moment. The difficulty, or the point where difference of opinion comes in, is when people are asked to consider how the idea is to be put in practice.

It appears to us that there is less real difficulty than seems to be generally imagined, so long as we suppose the action of the controlling body, whatever it be, to be confined to what may be called preventive measures. Every one can perceive that anything like a "Committee of Taste" endeavouring to impose its own æsthetic ideas on the architecture of the day would be not only injurious to the best interests of art, but would be practically impossible, because the public would not stand that. A body with such powers would either never get appointed, or, if appointed, would soon be under the necessity of disbanding from the impossibility of getting its ideas accepted. But it would appear that the line of action of the French Ministry of Fine Arts, and of the Paris Art Committee, exactly meets the requirements, and should form an excellent model for this country and for this capital. Those bodies do not, we take it, prescribe styles or make suggestions in design, but they have a veto; a scheme or a design has to be approved by the Art Minister or the Art Committee. That gives all the power and influence that is wanted, or that can well be exercised, in a reasonable and logical manner. The Ministry or the Committee of Art judges by results; it approves a design or does not approve it. In the latter case it practically says—this does not come up to our ideas as to what is adequate for the situation. It does not positively prescribe anything in the way of style or detail; it says only—"We are not satisfied; try again." A Government Department or a Municipal Committee acting on these lines would, as Mr. Emerson pointed out, form a valuable protection to the architect from any ill-advised demands of his client, for the architect would be enabled to say—"It is no use my designing such a building as you propose for this site, because it will not pass the Ministry of Fine Art." In the same way it would be impossible for private persons to put up in a public square, for instance a fountain or other monument made in a mason's yard; such a monument, in Paris, would have to pass the Art Committee of the Municipal Council; who would in fact require that a competent architect or sculptor, or both, should be employed, and then would require him to satisfy them. The art authority might, in such a case, and if they thought it desirable, offer some advice as to how the design or the scheme might be amended; but in the main their function would be to be dissatisfied until the design was brought up to a high standard, and to require the employment of competent artists. Such functions are perfectly easily defined; and they would be sufficient for the proposed object. Let us hope, now that the subject has been ventilated afresh, that at all events some public opinion will be created in favour of it.

There is however one important point in regard to the creation of any such Department as a Ministry of Fine Art which was not touched on by Mr. Emerson in so many words, though some of his remarks rather implied a recognition of it, viz.: That any such Department ought to be independent of political changes. Its members need not necessarily be permanent officials; they might be subject to change or periodical reappointment; but they ought not to come in and go out with a change of political

Ministry. Art has nothing to do with politics, and it would be absurd that the constitution of a body dealing with artistic questions should be liable to be entirely altered with the change from a Liberal to a Conservative Ministry, or *vice versâ*. As we have often pointed out, one of the most absurd things in connexion with the office of First Commissioner of Works is that the holder of it comes in and goes out with the political Ministry, although the subjects with which he has to deal have nothing whatever to do with politics; that on the one hand a man perfectly incompetent for such a post is liable to be appointed to it, solely because he is supposed to have a claim on the Government for a place of some kind, and the Office of Works is given him as a *solatium*; and on the other hand a man who is fitted for it, and who has just begun, perhaps, to understand his work and to commence some scheme of public improvement, is taken away from his post merely because the Ministry has changed. This is absurd; and a Ministry of Fine Arts will be of little or no value unless its leading members are appointed for their knowledge and interest in art, and retain their places independently of political considerations.

On the question of the collaboration of the architect, painter, and sculptor, a good deal of what was said in the papers and discussions was what we have heard before, but Sir William Richmond certainly made a good point when he said that while architects insisted on "styles" they would not get any first-class painter or sculptor to work with them. Is not the position proved in actual practice? Is it not mainly in "Gothic" churches that we meet with the prevalence of the trade producer of Mediæval windows and Mediæval plate? Mr. Mullins made a valuable suggestion in speaking of the influence of architecture in leading to restraint in sculpture—"a cemetery should be a home for good sculpture, and could be made so if the sheltering hand of architecture were there, to give it restraint." On the other hand we cannot at all agree with Mr. Mullins in regarding sculpture as an art unfitted to stand alone. There is sculpture which needs the framing of architecture and is incomplete without it; but there is also sculpture which is complete in itself, as an ideal conception, and stands best alone; and we cannot afford to do without this. We seemed rather in danger, too, more than once in the course of the papers and discussion on this subject, of stumbling upon the old heresy that architecture is necessarily incomplete without painting and sculpture. Architecture, as a conception, can be impressive and expressive in itself without the aid of any other art; otherwise whence comes the poetry of the Colosseum and the Pantheon?

The papers in connexion with the subject of "The Ideal City" by Mr. Ricardo, and the present "Un-ideal City," by Mr. Caröe, are both of them eloquent and full of excellent suggestions; and we may particularly draw attention to Mr. Caröe's remarks (page 615 *ante*) on the lack of imagination displayed in laying out open spaces, and that there are scores of people among the architects who could show how to do this better, if only they were given a chance. In regard to the matter of Vauxhall Bridge, we fear that Mr. Owen Fleming's suggestion that the Institute should put itself in communication with the Institution of Civil Engineers in regard to this subject, and endeavour to win them as allies, is hopeless. Engineers cannot be got to understand either what architects want or what they do not like, or why.

Mr. Blomfield's paper on "The Education of the Public in Architecture" dealt with what he admitted at the outset to be a very difficult, and what we think an almost hopeless, subject. He made however two practical suggestions: one that we should try to get boys at school taught something about architecture and about the science of construction, so that they might grow up with some interest in and some knowledge of the subject. Secondly, recognising that the jerry-builder we have always with us, he suggested that a series of plain pattern-books for builders, giving working drawings of quite simple designs for doorways, windows, &c., might save us from the utter vulgarity of the majority of the modern buildings in this country. Such pattern-books did, in fact, exist in former days, and were used too; and we believe they would be used again, if produced at a reasonable cost. But the point which interested us most in Mr. Blomfield's paper was his very decided criticism in regard to the total absence of any sense of style in so much modern building, and the mistake of running into experiments in the search of something new and original. This is no doubt becoming a vice among the younger generation of architects especially. "This latter habit of mind turns its back on tradition, and utterly eschews beauty in its mild attempt at strength." The recognition of the fact that tradition counts for much in architecture does not necessarily imply a contradiction of the sentiment uttered by Sir W. Richmond at a previous meeting in regard to styles." *Style*, of course is one thing—"a style" is another; and in acquiring the quality of style tradition gives a certain help, both as a suggesting and a restraining influence. There is so much ill-advised struggle after what is called originality now, that it is well that younger architects should be reminded that tradition and traditional forms have a certain weight and value of their own, in giving continuity and consistence to architectural design.

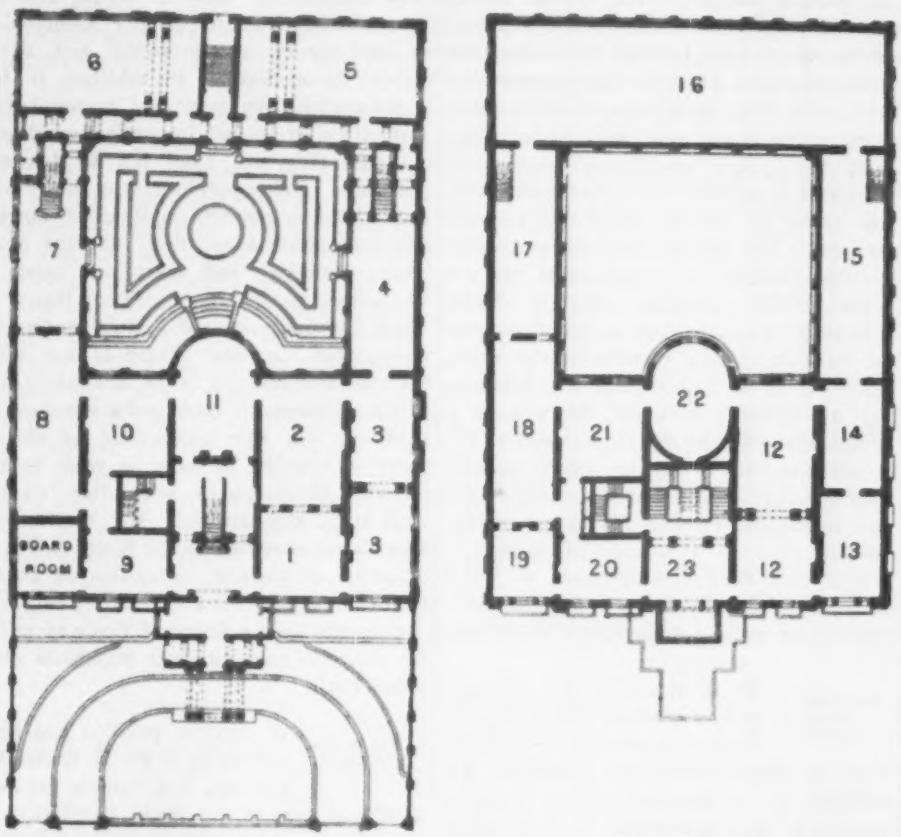
The passing of a resolution, at the Friday sitting, condemning the employment of official engineers and surveyors in the carrying out of important works of Municipal architecture, we regard as one of the most satisfactory incidents of the Congress, especially as it was carried in the teeth of a good deal of opposition. It is perfectly true that it has no immediate force, but the opinion has been put on record, and that fact may be beneficial. The obvious anger of some Borough officials in regard to the proposal was an indication that some move in that direction was needed, since they were evidently perfectly unconscious of the objection to thus allowing great works of architecture to be carried out as a piece of official routine. The real intention of the first resolution was obviously a good deal misunderstood; it was not, as some speakers appeared to think, aimed as a kind of blow at municipal engineers and surveyors; the object (as was we think at last clearly understood) was to give better scope to architecture on important occasions, and to allow the opportunity for important buildings to be carried out by the best architect who could be found, not by the official on the spot, whether gifted with architectural ability or not. The desirability of some decisive expression of opinion on this head has been obvious for some time back, and this one may probably not be without its effect. There was no element of professional interest in the resolution as passed; and another one which had been down for discussion, to the effect that this employment of official surveyors was injurious to the interests of the profession, was withdrawn at the last moment, as we imagine it was always intended it should be.

THE WALLACE COLLECTION.

THE opening of Hertford House, with its collection of pictures and other works of art left by Sir Richard Wallace to the nation, has given to London a new and most interesting art museum—one which has a special character of its own, both in its contents and in the fact of it being arranged in what was a private house, and a former residence of the donor. It is true that Hertford House is not in an architectural sense a very sumptuous mansion; indeed the treatment of the inner courtyard is quite doleful in its total want of embellishment; and if we compare it with the Galliera Museum at Paris, originally built to contain a private art collection left, like this, to the nation, we may feel that our Government have done the thing rather cheaply; but still there is a suitability in the fact of a collection made by a private owner for himself being arranged in what was originally a private house; it seems in place, and retains its true character better than if placed in a museum building of the usual type.

The finest portion of the picture collection was already known to the general public through its exhibition on loan at Bethnal Green a good many years ago: but the rich and exceptional character of the collection in regard to other kinds of artistic production will be a surprise to many. The accompanying plans serve to explain better the arrangement of the collection. The usual wickets and turnstiles have been placed between the vestibule and the hall, and an inadequate and ill-planned arrangement made for the custody of sticks and umbrellas, whereby the public, on days when there is any crowd, suffer the inconvenience of having to push and struggle to get to the counter against the opposite stream of those coming away, instead of a separate inlet and exit being provided, as might easily have been done; it is little credit to the authorities concerned that so obvious a requirement should have been overlooked. The principal staircase, rising from the hall, is an ordinary type of mansion staircase with a central lower flight dividing into two symmetrical upper flights; the balustrade is a fine and flowing piece of partially gilt metal scroll work. The upper portion of the staircase hall is hung with paintings by Boucher, symbolical or allegorical pictures of the usual commonplace conventional character of the period. The staircase used for ascent to the first floor galleries is, however, the smaller one leading out of Room 4, called "The Sculpture Gallery"; a room

Plans of Hertford House.



GROUND FLOOR.

1. Portraits of Royal Personages.
2. French Furniture.
3. Painting of the Earlier Schools. Majolica and Limoges Enamels.
4. Sculpture Hall.
5, 6, 7. European Armoury.
8. Oriental Armoury.
9, 10. French and British Schools of Nineteenth Century.
11. Paintings by Oudry and Desportes, and Miniatures.

FIRST FLOOR.

12. French Furniture, &c., and Paintings by Canaletto and Guardi.
13, 14. Dutch Schools of Seventeenth Century.
15. French and British Schools of Nineteenth Century.
16. Italian, Spanish, Flemish, Dutch, and English Schools.
17. Schools of Seventeenth Century.
18, 19, 20. And Great Staircase, French Schools of Eighteenth Century.
21, 22. Water-colours.

recently decorated with coloured wall-tiling and a mosaic floor presenting nothing specially worth notice. The ground-floor rooms, however, though presenting nothing remarkable in their decorations, form a fine and spacious suite and leave plenty of room for everything to be seen without crowding.

In the early part of this week there was no catalogue available of the furniture or pictures; the latter however are all named and described on the frames. We hope that in due time the method will be followed, with the furniture and the other objects, which has long been adopted at South Kensington, of having descriptive cards attached to every object, or at all events (in the case of smaller articles) every group of objects. For the general mass of visitors to such a museum, many of whom perhaps can ill afford to purchase a catalogue, the interest of an exhibition of this kind is greatly promoted by having the name and date, &c., of each object plainly stated on a label.

The bulk of the picture collection is in the upstairs galleries, but some of those hung in the ground-floor rooms are worth attention; among them, in Room 1, Lawrence's charming half-length of Lady Blessington; and in other rooms are some small battle scenes of Bellangé and Vernet and others of the earlier French military painters of the century. But the main interest in the ground-floor collection lies in the armour, the furniture, and various *objets d'art*, all of them selected by a purchaser, or two purchasers (for part of the collection was no doubt acquired by the Marquis of Hertford), of life-long experience as connoisseurs, and who were determined to have nothing that was not of real value; hence the exceptional character of this collection.

The furniture includes some splendid examples, especially a Louis Seize sofa and chairs at the side of Room 2, and a large cabinet with inlaid metal in the centre of the same room. In the two rooms marked 3 is to be found a fine collection of majolica ware in the wall cases, and some collections of special interest in the centre cases. Among these is one case containing metal work, which includes some curious and highly enriched astrolabes, compasses, and other quasi-scientific instruments, and, what is more valuable from the artist's point of view, a magnificent silver official chain (apparently) of German work, with small shields appended to it as pendants, bearing various dates and heraldic devices; the chain itself is of grand design, consisting of panels of foliage and animals alternating with smaller panels of conventional scroll-work; it is one of the most remarkable objects in silver-work to be seen in any museum. A case of reliefs in coloured wax illustrates examples of old date of a form of art which Miss Casella has revived in her charming works of this kind, some of which are to be seen every year in the sculpture-room of the Royal Academy, and which perhaps are superior to any of these old examples, though the collection serves to show that this was at one time a much more favourite form of art for portraiture than most of us were aware of. Palissy and Nuremberg ware, and enamels and ivories of the fourteenth to the sixteenth century, form the contents of two other cases. In the cases in the centre room should be noticed also the small but valuable collection of Italian bronze and ivory statuettes, some of them forming curious illustrations of the eccentric fancy of the Renaissance—a nude figure, for instance, balanced on his hands, with his feet in the air, or a knocker made of a figure bent backwards and stamping with his feet to form the blow of the knocker; a design which we mention the rather because so many ancient knockers are in existence which have been designed without any regard to their suitability as knockers, and this is an exceptional example of the contrary.

The armour, which forms a splendid collection, is arranged in the galleries at the back of the ground floor, which contain the European armour and weapons, and in Gallery 8, at the side, which contains the Oriental armour; by far the finest portion of the collection in an artistic point of view, as might be expected. The European portion, however, contains a number of complete suits in excellent preservation, and of great value at all events in a historical and constructional sense.

The galleries upstairs are completely hung with pictures, of which the most valuable portion is in Room 15, which contains the French paintings of the earlier part of the present century. These were for a long time lent to the Bethnal Green Museum, a good many years ago, and the impression then produced by the collection of the works of Decamps and Meissonier in that exhibition will not be forgotten by those who visited it. We recognise here nearly all those that we remember at Bethnal Green, with the exception of Decamps' splendid painting of "The Patrol at Smyrna." What has become of that? Was it disposed of since the Bethnal Green exhibition? Its absence is a great loss to the Decamps collection, as it was perhaps the finest example of his work. Among the paintings in this gallery two large ones by Prud'hon, "Venus and Adonis" and "The Sleep of Venus," give a very high idea of the beauty and refinement of style of this painter of the early nineteenth century, who is now nearly forgotten except by students of the history of art. Some beautiful landscapes by Troyon and Rousseau, and a small figure-subject by Couture of exceptionally fine quality of colour, are among the contents of this interesting gallery.

Besides these, we can only specially mention further that the Italian portion of the galleries contains some very fine examples of the work of Guardi, who in regard to treatment of buildings and brightness of atmospheric effect quite asserts a superiority over Canaletto, as illustrated in this collection at all events; that Room 12 contains an exceptionally fine brass and ebony cabinet of most sumptuous design; and that in the two rooms devoted to water-colour no one should omit to look at Turner's small work, "Grouse shooting," one of the finest things Turner ever produced, and which seems a summary of what is best in water-colour landscape.

The whole collection is one of the most valuable additions which has been made to the artistic treasuries of London.

VICARAGE, ALDERSHOT.—A new vicarage is to be erected for the Parish Church at Aldershot. The house will be built on the site of the old vicarage, and will be of red brick with a tiled roof. The architect is Mr. Spooner.

NOTES.

Stoa of Attalos at Athens.

WE are glad to learn from a recent issue of the Athenian *Mittheilungen* (xxiv., 4) that the excavation of the Stoa of Attalos, resumed in 1898, is now practically complete. As long ago as 1859 the Stoa was discovered, and owing to the fortunate discovery of an inscription was immediately identified as the work of Attalos II. of Pergamos, whose reign falls between 159 and 138 B.C.; but the excavation was, in the haphazard fashion of those days, left incomplete; so much so that, as every visitor to Athens knows, a narrow, modern street passed right through the ancient building. The Archæological Society of Athens has now completed the work, and has laid completely bare the foundation of the twenty-one chambers of which the Stoa consisted. To the north, a hitherto unexpected exedra has been discovered, and it is now clear that this and the three northernmost of the chambers were not part of the original plan, but were added after only a short time had elapsed. M. Mylonas, who directed the work, is preparing the publication, with detailed plans. Sufficient fragments of the architecture have been discovered to allow of restoration. The Attalos Stoa has three special claims on archæological interest: its date is certainly known, it belongs to a transition period embracing old and new styles, and it is a good representative of an important class of ancient civic buildings of which we possess but few and fragmentary examples.

A Local Government Board Circular.

THE Local Government Board have issued a circular to the various Local Authorities, bringing to their notice the duties which are placed on them by various statutes, such as the Public Health Act, 1875, and the Housing of the Working Classes, 1891. We fear that it is not so much a want of knowledge of their powers as from time to time disinclination to use them which is the fault to be found with some Local Authorities. We doubt, therefore, if a mere circular of this kind will be of much service, more especially if it is sent only to the Local Authorities. It should be printed in the local papers, so that ratepayers may be informed of the powers and duties of those who are in authority. It would also be desirable if the surveyors were to be addressed directly by the Local Government Board, and reminded of the important duties which are cast on them. Some local officials are over-zealous in the wrong direction. They will examine the houses of those whom they know will raise no objection, while they avoid places where a visit would probably result in some difficulties. They often strain at the gnat and swallow the camel, making a great deal of fuss over some small technical mistake, but taking no notice of flagrant instances of bad sanitation.

Liability for Quantities.

THE case of Mellor *v.* Britton, which was recently decided by Mr. Justice Bigham, is of some interest in regard to the liability of the builder to pay for quantities. That the builder is bound to pay the quantity surveyor out of the first instalment of the contract price received from the building-owner was finally decided in 1892 in the case of North *v.* Bassett, which came before a strong court of the Queen's Bench Division consisting of the present Lord Justice Smith and Mr. Justice Mathew. But in the recent case the builder had not received any money for any work done, but had taken over the building-owner's interest in the property and in the work done, which was of considerable value. Therefore, said Mr. Justice Bigham, the builder was in a position to demand the amount of the first instalment, and so he should have paid the quantity surveyor. The decision may be supported on other grounds—the builder had had the benefit of the quantities, and so he should have paid for them. Also he had taken over the building-owner's interest in the work, and so if he as builder was not bound to pay the quantity surveyor, he was as a person who had adopted the contract of the building-owner. Thus on every ground, both of fair dealing and of law, the surveyor was entitled to recover his fees from the building-owner. This case of Mellor *v.* Britton is a kind of supplement to North *v.* Bassett, though the former decision remains the leading authority on the subject.

Bury Grammar School Competition.

IN reference to this competition, a review of which appears in another column, a competitor writes to say that while the Committee advertised that "a competent assessor would be appointed," they appointed not an architect but a civil engineer. This, as our correspondent observes, is not what the competitors had a right to expect. In an architectural competition "a competent assessor" necessarily means, to the competitors, an architect; and it is an architect who ought to be appointed to judge of architectural plans and designs. We do not say that the assessor has done badly in this case, and he appears to have gone into the subject in perfect fairness of intention; but nevertheless the appointment of an engineer as assessor amounts to a breach of faith with the competitors.

The Legal Electrical Standards.

LAST Friday the Civil and Mechanical Engineers' Society visited the Board of Trade Standardising Laboratory at Richmond-terrace, Whitehall, and owing to the kindness of Mr. Trotter and Mr. Rennie, who spared no pains in explaining the action of the various standard apparatus, spent a most enjoyable and instructive visit. In the Standards Room are kept the instruments which measure the units of electric current and of electric pressure respectively. The unit current is measured when the attraction between two coils of wire in which the current is flowing is balanced by a weight made of iridio-platinum. The legal unit of electrical pressure is the hundredth part of the pressure which, applied at the terminals of the standard voltmeter, produces a certain rotation of the moving part of the instrument. In addition there is a legal unit of resistance which is measured by the resistance of a coil of wire. Of course, theoretically we ought to be able to deduce from any two of these standards the third standard, and it is satisfactory to learn that they all agree with each other within one part in ten thousand. The Verification Room was full of various kinds of meters undergoing the very stringent tests necessary before the Board of Trade officially sanctions them. We noticed motor meters, clockwork meters, electrolytic meters, and even meters constructed on the penny-in-the-slot principle. The laboratory is connected with the London Electric Supply and the Westminster Electric Supply Companies, so that plenty of alternating and direct current is available. In addition it has a gas-engine, dynamos, and accumulators. The latter all looked in perfect condition, although they are from ten to fourteen years old. A new purchase is a rotary converter which converts continuous current into three-phase alternating. It runs absolutely smoothly, and does not need to be bolted to the floor. The Board of Trade are thus prepared to test meters for three-phase currents. There is one thing, however, still wanting in the laboratory, and that is a photometer room and a standard for light. It is a little humiliating for electricians in London to have to send to the German Reichsanstalt when they want a glow lamp standardised. Mr. Trotter, the new electrical adviser to the Board of Trade, is one of our greatest authorities on photometric standards. It would be an excellent opportunity for the Board of Trade to utilise his ability to put our light standards on a sound basis.

The Rodin Exhibition, Paris.

A SPECIAL pavilion has been erected by or for M. Rodin, the sculptor, just outside the Pont de l'Alma gate of the Paris Exhibition, in order (obviously) that M. Rodin's works may be in evidence in connexion with the exhibition, while at the same time he may maintain the attitude of aloofness, as of an artist who is too great to mingle with ordinary sculptors in the show. This is only another instance of the tactics of posing as a superior person which M. Rodin, in common with some other artists who wish eccentricity to be counted to them for genius, have taken up, and in which they are supported by critics who ought to know better. M. Rodin, it is true, is a genius, and when he produced the "Age d'Airain" he promised to be one of the great sculptors of the day, but he seems more lately to have discovered that eccentricity and pretence make a quicker reputation than hard work. His exhibition, in which the hideous nightmare figure of Balzac forms the central feature, contains some works of genius—all of them however, except the "Age d'Airain," of a very sketchy character—accompanied by a number of eccentric and contorted little plaster sketches, some without heads, some without feet, some with neither; the theory being, evidently, that whatever bit of a figure M. Rodin has modelled ought to be precious to the public. Of course, a great many persons, if they are only told so positively and with an air of authority, are ready to believe, and to take so ethereal a sculptor at his own valuation. The exhibition is a melancholy one, when one compares what M. Rodin evidently might do with what he has chosen to do.

The Human Passions in Sculpture.

WITH M. Rodin's exhibition we may couple that of another sculptural eccentric, M. Lambeaux, whose illustration of "Les Passions Humaines" is notified by an advertisement on the wall of a house near the top of the Avenue du Trocadéro. On entering, we find ourselves opposite an immense plaster basrelief filling up the whole side of a large courtyard, and specially lighted from above; it consists of a kind of hash of nude figures from among which

the spectator gradually picks out groups which have a certain connexion and symbolical significance — amorous groups, murderous and fighting groups, a mother and infant, two lovers, &c. They appear to be all very roughly and crudely modelled, and probably would not bear the close inspection from which the spectator is prudently debarred by a restraining barrier. There is originality and a certain genius in the idea and in the manner in which it is treated, but it seems to be another of the examples of a very bad tendency in modern sculpture, to make ideas serve the place of sound execution. This is called "Sculpture Intellectuelle," which appears to mean "unfinished sculpture," left in that state either because the sculptor will not, or because he cannot, finish it. Then the more ignorant portion of the public are instructed that this is something on a higher level than the merely correct sculpture which they see in ordinary exhibitions, and they accept the instruction—

"And wonder with a foolish face of praise."

The Modern Gallery.

THE Modern Gallery has on view a collection of water-colour drawings by Mr. and Mrs. Albert Stevens, comprising views of Lakes Como and Maggiore; Amalfi, Cannes, Mentone, also the Engadine, Chamonix, St. Gervais, and Geneva—delightful places all of them, associated in our minds with lovely scenery and change and rest, but the truth is they are not in the accepted sense sketching country. It is, therefore, natural to find the most pleasing of these artists' work among the smaller pictures, such as the garden scenes by Mrs. Stevens, Nos. 21 and 30, handled in a direct and bright manner. No. 26, "Cloudland," by Mr. Stevens, is a fir-clad mountain slope, wreathed in cloud and mist, delicately treated in subdued colours. Two cottage scenes, one at St. Gervais, the other at Geneva, both by Mrs. Stevens, make a pleasant pair, sunny and full of colour; these and Mr. Stevens' "Looking Towards Cap Martin" are among the best things in the collection. In another room are some drawings by Mr. Herbert Finn, the greater number of which have been on view before, and been remarked upon in these pages. Of those not previously exhibited, the "Interior of Christchurch Priory" is the most beautiful—tender and full of poetry, we have not seen so idealised a rendering of architecture for a long time. "The Infirmary Chapel," very different in every way from the above, is a fine water-colour drawing of these beautiful ruins.

The Handel Festival.

THE second and third days of the Handel Festival, on Thursday and Saturday of last week, were equally successful with the first. The Selection day on the Thursday was an immensely long programme, but there is always the wish to illustrate the varied genius of Handel as fully as possible on this occasion, and perhaps no one found it too long. It is regrettable however to feel that the race of great singers of music of this school does not seem likely to be kept up; we have no promise so far of successors to Mr. Santley and Mr. Sims Reeves, nor even to Mr. Lloyd; and the singing of "Waft her, angels," on this occasion, in its want of finish and style, was rather a sad contrast to all former deliveries of this great song at the Handel Festivals, where up to this occasion it has been heard only we believe, from Mr. Reeves and his best successor (*longo intervallo*) Mr. Lloyd. Miss Ella Russell keeps up the traditions of the old school of singing, and delivered the unaccompanied recitatives before the closing chorus of "Israel" in noble style; and Miss Clara Butt promises to be a great singer. But in general one cannot help feeling that the art of singing is not studied and developed as it used to be. The great series of choruses in "Israel" were splendidly performed, and brought the Festival to a worthy conclusion. It is rumoured, we regret to hear, that there will be no more Handel Festivals at Sydenham; but we trust that public opinion will make itself heard in favour of their continuance. To abandon them would be to give up one of the finest things that we do in England.

ARCHITECTURE AT THE ROYAL ACADEMY.—V.

DECORATIVE WORK.

WE have left to the last a few words on the decorative designs in the architectural room; which however, are not very numerous, and of which only a few are of much importance.

We have already referred to Mr. Babb's frieze, drawn in two compartments, of "The Attic Months," which is the largest and most important decorative work in the room. This is composed on the same general lines as others by the same artist, some of which have been illustrated in our pages; it shows a strongly marked horizontal framing of architectural detail, supporting a series of figures in a cream tint on a strong red ground. The effect is pleasing both in regard to line and colour. Mr. Pite's study for a street front in mosaic and faïence we have already considered under the heading of Street Architecture.

Among the drawings which may be classed as decorative work we may perhaps include, as it has not been before mentioned, the small pen drawing of "A Sunk Garden" (1,696), by Mr. H. Tanner jun., a formally laid out garden with a semicircular colonnade in the background; the general idea is very good, and was worth a better drawing. Mr. Edward O. Clark's two studies of furniture (1,761, 1,762) are very well and effectively shown in water-colour; we cannot like the sideboard—a sideboard with an open-work brass back has a cheap restaurant air about it; of the designs in the other sheet the chair is a really good one; in the others there seems a little too much effort at novelty of shape. Mr. Ogden's "Design for an Overmantel and its Decoration" (1,779) is slightly though well drawn on brown paper with the lights and edges heightened with white; this is a design of Renaissance type, the merit of which lies in the figure sketching; the frieze of boys playing with festoons, and the circular panels each filled with a bowed figure fitted to the space, are very good, and there is a classic dignity and keeping about the whole. Of Mr. R. C. Austin's two small "Studies for Wall-papers" (1,775) we prefer the lefthand one with the yellow flowers; a good bit of decorative design; the other one is too small and spotty in effect. Miss Hildesheim's "Design for a Block-printed Chintz" (1,777) is very good as a chintz design, which should be able to bear folding without losing its effect; hence a rather easy and loose design, which would look careless in a wall-paper, is quite in character with chintz. In connexion with this exhibit we may mention Mr. Alfred Carpenter's "Sketch Designs for Tapestries" (1,887), eight coloured designs on one sheet, good in colour and suitable for tapestry.

Mr. J. J. Shaw's "Screen in Wrought-iron" (1,842) is a bold piece of work in Renaissance style, similar in character to some others which he has exhibited in former years; there is not, it is true much invention in design of this kind, but this is at all events thoroughly well done of its kind. In a very different way Mr. Harold Smith's "Wrought-iron Gates" (1,895), published in our issue of May 12, is also meritorious, as it shows fancy and originality in the treatment of wrought iron, though in a less classic and more piquant manner.

The remaining decorative designs (apart from stained glass) are Mr. Fleuss's "Design for a Decorative Panel" (1,853), a figure of a bishop in a decorative setting, which is rather too mere a piece of mediævalism; Mr. Temple's "Bath-room in Tiles and Mosaic" (1,859), a wall with a mosaic frieze and dado, and a very agreeable branching tile pattern over the remainder of the wall—the mosaic frieze is good, but in the dado the large rather lumpy forms are not pleasing to the eye; Mr. Boekbinder's "Proposed Ceiling for a Concert Hall" (1,872), in a style too prevalent among the French, showing a panelled area with an oval picture in the centre, which seems to open up to the sky and shows floating figures and architectural details seen in upward perspective—a kind of anomaly which cannot be too much protested against; and Mr. Herbert Raine's "Design for a Fireplace" (1,905), a very nice bit of work—red bricks enclosing a simple metal grate with a band of green tiles above; the neutral-tinted wood-work is designed so as to form a series of arches along the upper part of the wall, through which runs a band of coloured decoration diversified with peacocks and flowers. The colour-effect of the whole is very harmonious.

The designs for stained glass form the most numerous department of the decorative drawings; but, as we have often said, stained glass can only be properly represented in an art exhibition by the glass itself; coloured drawings serve so little towards giving the real effect. A good many of the drawings here represent types of stained glass design which are too familiar and too constantly repeated to call for any comment; but there are some which show more originality or more decided stained-glass character than usual. There is Mr. Glasby's sketch design called "Christus Consolatus" (so in the catalogue—we presume "Consolator" is meant), in which there is an absence of the usual conventional "tabernacle-work," and an appearance as if the glass was all to be put together in small self-coloured pieces—it has stained glass character, in short; the groups of figures are well designed, and the angels fill up the upper portions of the three compartments in a decorative manner. Mr. C. W. Whall exhibits a slight and sketchy large drawing of a tall five-light window for Gloucester Cathedral, in which the lower compartments are treated with white glass with shields and other emblems; colour is introduced in the other ranges of the work and is strongest and fullest in the middle range, where there is a subject of the Nativity with a deep blue starlit sky as a background. This looks as if it would be a fine window. Mr Aikman's design, "The Nativity" (1,711) is a window with some originality of treatment, the usual architectural canopies being omitted in favour of a more free but not pictorial treatment: angels with their wings occupy most of the upper part of the design; below is a small scene of the Nativity beneath a kind of bower of intertwining tree stems, which however are not quite conventionalised enough for the position. Mr. Aikman has another window design, "Moses at the Burning Bush" (1,751), also very original—a two-light window, in which the "bush," with flame-like yellow growths on it, takes a sweep from the right hand light into the upper part of the left hand one, above the figure of Moses; the distant sea and hills are however a mistake from a stained-glass point of view. Other designs for stained glass are two by Mr. G. Parlby (1,739 and 1,746), figures of St. George and John the Baptist decoratively treated amid a profusion of architectural detail rather scattered in design, but the St. George window is effective as a whole; Mr. W. J. Griffiths's design for stained glass for a round-headed window, the figure of Charity and some children around her very charming in design and expression, but perhaps the group is a little too pictorial in character; and Miss Spurling's two small sketches of groups of figures for glass treatment (1,849 and 1,851), in which the treatment of the work in glass is hardly indicated, but which look as if they would work out well in that medium—the drawings at all events show a feeling for figure design and composition. Messrs. Shrigley & Hunt's large window for St. Lawrence's Church, Morecambe (1,841) is hung too high to be well seen, but appears to be a good figure and canopy window of the accepted church type, with commendable reticence and quietness in colour.

THE BURY GRAMMAR SCHOOLS COMPETITION.

No time has been lost in connexion with this competition. The "Instructions to Architects" are dated March 1, 1900; the last day for receiving drawings was June 1, and the result of the competition was published in the local papers on Saturday last. The assessor and the Governors deserve the thanks of the competitors for their promptness in awarding the premiums. The instructions were drawn up by Mr. J. Cartwright, M.Inst.C.E., a former Engineer to the Borough, and "Supplementary Instructions" were also issued by him in answer to queries. He is also the "competent assessor" whose decision the Governors of the schools have adopted. The two documents give a full statement of the requirements of the Governors, and, while they are explicit on some points, rightly leave considerable latitude to the competitors on others. A large hall to seat 600 is the most important room demanded, and this must be so placed as to be equally convenient for boys and girls, and must not form the approach to any class-room. Among the other requirements are thirteen class-rooms for boys and nine for girls, boys' and girls' art-rooms, chemical and physical laboratories and lecture theatre (for boys), girls' music-rooms, masters' and mistresses' rooms, kitchen, dining-rooms, gymnasium for boys, recreation-room for girls, workshop, &c. The sizes of the class-rooms were given, but the other rooms were left to the competitors' discretion. The cost, exclusive of fittings, salary of the clerk of works, and architects' commission, was originally fixed at 17,000*l.*, but this was afterwards raised to 19,000*l.*, with a 10 per cent. margin. On the recommendation of the assessor, the three premiums have been awarded as follows:—1st (100*l.*), Mr. Wm. Venn Gough, 24, Bridge-street, Bristol; 2nd (60*l.*), Mr. H. Teather, Gateway-chambers, Shrewsbury; and 3rd (30*l.*), Messrs. Woodhouse & Willoughby, King-street, Manchester.

Mr. Gough's design (No. 33) has the great merit of compactness. The building is rectangular in plan, measuring about 200 ft. by 170 ft. The hall (about 77 ft. 6 in. by 41 ft.) and chemical laboratory (39 ft. by 28 ft.) are placed in the centre of the block, the longitudinal axis being at right angles to the front of the building. Right and left of the hall are two groups of four class-rooms, with small courts or areas at the front and back. Two of these areas measure 29 ft. by 42 ft. and two only 22 ft. by 42 ft., and yet they are intended to give light and air to eight class-rooms. No doubt this arrangement has been adopted for the sake of economy, but it is certainly a mistake to light class-rooms from courts only 22 ft. wide. If building regulations insist on the air-space between cottages being 30 ft. or 36 ft., at least the same space should be provided in front of the class-rooms of an important school. In the instructions to architects it was distinctly stated that "quantity" of light was an important consideration, and we think there is much room for improvement in this respect in the first premiated design. The small courts are not the only defect. To make matters worse, Mr. Gough has made his windows only about 20 in. wide, and has divided them by transoms; the instructions say that "ordinary sash windows" should be used as far as possible, and these will, of course, reduce the effective area of such narrow windows very considerably, and yet the sashes are again divided into small panes. A favourable feature is that the class-rooms are all lit by windows on the *longer* sides of the rooms, the windows being always to the left of the scholars.

The front of the building is towards Bridge-road, the headmaster's room being at the left extremity with the boys' principal entrance adjoining it; the headmistress's room and the girls' entrance occupy corresponding positions at the right extremity. Between the entrances are five of the boys' class-rooms, the largest being in the centre of the front and projecting beyond the others. The art-rooms, lecture theatre, physical laboratory, and music-rooms occupy the back of the building, and class-rooms are placed at the sides of the building, in addition to the eight class-rooms abutting on the areas. The levels of the two front entrances are arranged midway between the basement and principal floors, with flights of steps leading down to the former and up to the latter. This is a convenient arrangement, which has also been adopted by some other competitors, but Mr. Gough is almost alone in having arranged additional staircases for boys and girls near the back of the building. The cloak-rooms are in the basement, as also are the girls' latrines, but the boys' latrines are in a separate building, within easy reach of the main block. The gymnasium is only 15 ft. high, but this is better than in many of the designs. The boiler-room for the low-pressure hot-water warming apparatus is shown on the same level as the rest of the basement floor, an arrangement which would necessitate the pipes for warming the basement rooms being carried high up the walls or along the ceilings; and the boiler flue is shown about 24 in by 12 in., one wall of it (adjoining the physical laboratory) being only 4½ in. thick! By placing the rooms for assistant masters and mistresses on an upper floor Mr. Gough has infringed Condition 14, although the "Supplementary Instructions" distinctly state that "the terms of Clause 14 cannot be modified."

The elevations are simple and neatly drawn, but somewhat monotonous, the windows throughout having elliptical heads. The central feature of the front is very weak, and no attempt has been made to increase the effect by means of the gable of the large hall; this is left perfectly plain, although it rises 18 ft. above the ridge of the class-rooms in front of it. As the hall will undoubtedly be used for public ceremonies, such as prize distributions, a special public entrance ought to have been provided in the centre of the front, and if, over this, a gallery for visitors had been provided, and the gable brought to the front of the building, the plan would have been all the better and the architectural character of the building might have been greatly improved.

The second premiated design is of an entirely different type, the hall (83 ft. by 37 ft.) being placed in the middle of the front with its longitudinal axis parallel thereto. The masters' and mistresses' rooms are conveniently planned behind the hall, and the girls' and boys' entrances at each end. Four boys' class-rooms complete the front towards the left, and are balanced by four girls' class-rooms to the right. The remaining rooms for girls are contained in a wing towards the back, and those for boys in a similar but longer wing, and in another wing parallel to the front. Thus, the buildings may be described as surrounding about three and a half sides of a large quadrangle. The whole block has a frontage of about 280 ft., and a return (on the north or longer side) of about 200 ft. This is an improvement on the first design, as far as light and air are concerned, but, of course, the cost will be greater on account of the greater quantity of external walling, &c. To counterbalance this, the class-rooms are shown very low—about 10 ft. 6 in. high at the sides and 14 ft. 6 in. or 15 ft. in the centre—and the air-space is further reduced by raised stages in all the class-rooms. The gymnasium under the hall is only 12 ft. 6 in. high. The boys' bicycle-room is without windows, its only natural light being obtained through borrowed lights. The back wall of the hall is, in the main, only 9 in. thick. The boiler flue is only 14 in. by 9 in., with a 4½-in. wall in front of it, and the boiler-room, as in the first design, is on the same level as the rest of the basement. The stairs to the basement are only 4 ft. 6 in. wide. The class-rooms are lit from the *ends*, and the desks are placed the length-way of the rooms. The elevations have more character than the first design; the hall forms an important feature of the front, and the entrances (one at each end of the hall) are emphasised by low towers with octagonal domed roofs.

The third premiated design (No. 7) is by Messrs. Woodhouse & Willoughby, and is in many respects better than those placed before it. In the words of the assessor, "the elevations are not very attractive, and had they been equal to the planning this design might have taken first rank." The principal objection to the plan is that it covers such a large area, the front being about 370 ft. long, and the return about 160 ft. The rooms (with the exception of the scholars' entrances, cloak-rooms, and latrines, which are in extensions at each extremity of the front) are arranged around a quadrangle, and this is divided by the large hall, thus forming two courts, which measure about 81 ft. by 32 ft. A public entrance, leading directly to the hall, is placed in the centre of the front, and the two rooms for the masters are on each side. To the left are four boys' class-rooms, then the boys' staircase, entrance, cloak-room, and latrines; a similar arrangement for the girls is adopted on the right. There can be no doubt that the cloak-rooms are more convenient on the principal floor than in the basement, and are more easily supervised by the teachers; but they add considerably to the area of the building and necessitate a large amount of waste space in the basement. To counterbalance in some measure the extra cost thus involved, the authors have adopted low-pitched roofs and a very plain type of external design. The estimates submitted by the authors of the three premiated designs are all above 19,000*l.* Mr. Gough estimates that his building contains 877,456 cubic ft. and will cost 19,280*l.*; Mr. Teather's building contains 816,000 ft. and is estimated to cost 19,016*l.*; while Messrs. Woodhouse & Willoughby submit an estimate of 19,150*l.* for a cubic capacity of 905,179 cubic ft. These work out at 5·27*d.*, 5·59*d.*, and 5·07*d.* per cubic foot respectively, which are very low rates for a building of this character, considering the current prices of materials and labour.

The designs were on view for such a short time that we were unable to make anything but a cursory examination of the remaining thirty-two designs. Some were out of court because all the drawings demanded by the instructions had not been submitted; in one (No. 28) the plans were drawn to a scale of 16 ft. to an inch instead of 8 ft.; others (as No. 3) infringed the instructions as to colour. Many competitors seemed to think cost quite a minor consideration, and others showed the rooms scattered in haphazard fashion. We noted several meritorious designs, but it would be invidious to mention these, as we were unable to examine all the designs thoroughly. Of the three premiated designs, we consider the third the best. It would certainly cost less per cubic foot than the second, and the cubic contents could easily have been reduced by placing the cloak-rooms and latrines in the basement; this would involve no alteration in the admirable planning of the teaching department, and, if we are rightly informed, it would be as small a deviation from the competition drawings as are the alterations contemplated in the first premiated design.

THE CENTRAL LONDON RAILWAY.

THE formal opening of the Central London Railway on Wednesday afternoon, by the Prince of Wales, is an event upon which the inhabitants of the Metropolis may congratulate themselves. They may also, and it is to be hoped they will, entertain proper feelings of gratitude to those individuals who have successfully inaugurated so invaluable a means of communication between various centres, which measured by geographical standards are near one to another, but gauged by standards of time have hitherto been far apart.

As every one knows, London is built above a compact bed of clay, through which tunnelling is comparatively easy by means of the Greathead shield. It is only within recent years that the value of this bed has been fully recognised as a practically unlimited field for future railway enterprise. Its utilisation is rendered possible, chiefly by the late Mr. Greathead's invention, but partly also by the improvements which have been made in the construction of mechanical lifts. We believe that Mr. Greathead at one time entertained the sanguine hope that it would be practicable to introduce a complete and scientific system of inter-communicating subways for the convenience of the Metropolis. When he began to experience the difficulties placed in the way of his scheme by property-owners, it became evident that the situation of any line of railway must more or less follow the course of the public streets. Land owners are but human, and however much they may sympathise with projects for the benefit of their fellow-citizens in general, they are seldom willing to part with their sacred rights without adequate, not to say excessive, remuneration. Hence it is that most of our new underground lines run below the public highways. About the year 1892 the practical success of the City and South London Railway demonstrated the advantages possessed by low-level electric railways, and in the same year no less than six Bills for similar lines were brought before Parliament. A joint Committee of both Houses

reported in favour of electric traction for deep-tunnel lines, and also expressed the opinion that the public interest would be served by permitting such railways to pass beneath the streets of the Metropolis without payment for wayleaves. After the contest which is always necessary in our enlightened country before any useful work can be permitted, the promoters obtained their Act, and in the year 1895 the Central London Railway Company was formed, the original engineers being Sir John Fowler, Sir Benjamin Baker, and Mr. Greathead. The Electric Traction Company, for a lump sum of rather more than three millions, undertook to construct and equip the line, and contracts for the construction were let to Messrs. Walter Scott & Co., Mr. John Price, and Mr. John Talbot. The present engineers to the company are Sir Benjamin Baker and Mr. Basil Mott.

The line follows a route which practically cuts London into two equal parts. Starting at the generating station at Shepherd's Bush, the railway passes along the Uxbridge-road, Bayswater-road, Oxford-street, Newgate-street, and Cheapside to the Bank terminus. The positions of the stations and their relative distances one from another, from centre to centre of the platforms, are as follows :—

	Yds.		Yds.
Shepherd's Bush—		Oxford Circus	699
Holland Park	1,012	Tottenham Court-road	666
Notting Hill Gate	683	British Museum ...	682
Queen's-road	768	Chancery-lane	746
Westbourne Park	980	Post Office	1,163
Marble Arch.....	1,288	Bank	828
Davies-street.....	642		

Although the extension to Liverpool-street is at present in abeyance, it is desirable in the public interest that a junction should be made with the object of bringing the Great Eastern system into closer communication with the central and western parts of the Metropolis. Any project which tends to obviate the transference of passengers from one railway station to another by cab or omnibus is obviously to be recommended. Even with the existing facilities considerable advantages will be secured. The Bank terminus places the Central Railway in communication with the City and South London line, already extended to Clapham in the south and to Moorgate in the north. At the Bank station, the Central London is connected with the City and Waterloo Railway. Another connecting link will probably be established near Oxford Circus with the Baker-street and Waterloo line, now in course of construction.

In addition to the length of 10,163 yards of double line between the various passenger stations, there is a further section of 1,036 yards at Shepherd's Bush, measured from the centre of the station platform to the ends of the sidings at the depôt. A length of 200 yards has also been provided beyond the centre of the platform at the Bank station. Thus the total length of continuous railway, exclusive of cross-over roads at various points, is a little less than 6¼ miles.

Perhaps the most interesting feature in the whole system is to be found in the Bank station and its surrounding subways. When the railway scheme was under consideration the company offered, as a compensation for the tunnelling sought, to construct the much-needed subway to enable the public to cross this dangerous centre without risk to life or limb. The subway, constructed just below the road pavement, is oval in form. One end of the oval is beneath the apex of the triangle formed by the pavement in front of the Royal Exchange, where two tangential passages ending in flights of steps give access to the subway. Another flight of steps leads to the street near the Liverpool and Globe Insurance Company's premises, and similar provision is made at the north-east corner of the Mansion House. Beneath the middle of what is technically termed Mansion House-street, a corridor is thrown off in a westerly direction, communicating with a passage at right angles which crosses Queen Victoria-street. At each extremity of this passage is a flight of steps, one landing the passenger near Walbrook and the other at the junction of the Poultry and Queen Victoria-street. The western corridor communicates with the terminus of the City and Waterloo Railway. The last connexion with the street is on the pavement in front of the Union Bank. These subway corridors are 15 ft. wide, they are lined with glazed tiles, and illuminated with electric light. Immediately beneath the oval subway is another of approximately equal section for pipes, sewers, and electric light wires, the diversion of which has been neither an easy nor an inexpensive operation.

The Bank station offices occupy the centre of the oval, being just beneath the roadway. Five wells communicate with the underground station, each well containing a lift for the conveyance of passengers to the platforms contained in the enlargements of the tunnels, 65 ft. below the surface.

Speaking in general terms, the arrangements of the new railway will be similar to those prevailing on similar lines. These particulars and the modest architectural features of the station buildings are no doubt already sufficiently familiar to our readers. It may, however, be interesting to mention a few facts relative to engineering details which are not contained in ordinary press notices.

The up and down line tunnels are 11 ft. 8¼ in. in diameter, enlarged at the stations of 21 ft. 2½ in. in diameter, and at the cross-overs to 25 ft. diameter. At some points on the line where the curves are sharp, the small tunnels are slightly larger, being 12 ft. 5 in. and 12 ft. 7 in. in diameter, so that the long bogie carriages may pass round the curves.

At the western terminal station, the railway commences with the two station tunnels; a cross-over for marshalling the trains being provided at each end of the station, with a siding to the west, holding two trains, parallel to the inclined tunnel leading to the main generating station.

In starting from each station the locomotives are assisted by downward gradients of 1 in 30, the total drop caused by this gradient being about 10 ft. On the other hand, the train is assisted in coming to rest as it approaches a station by an adverse gradient of 1 in 60. At Notting-Hill Gate the surface roadway is very narrow, and the station tunnels are consequently placed at different levels, one being at a considerable distance above the other, but the tunnels slope to the same level at the adjoining stations eastward and westward.

At Queen's-road there are two cross-over tunnels, with sidings of two train-lengths between the up and down lines. There are also two cross-over tunnels with a similar siding tunnel west of the Marble Arch Station, and the same arrangement occurs at the British Museum and Bank Stations. The up and down tunnels vary considerably in their relative positions; the line for the up tunnel only was laid down and surveyed on the surface. This line was not always the centre line of the tunnel, but in several instances another line or set of lines was employed from which the actual centre lines for both the up and down tunnels were obtained and set out underground. The longest separate length of tunnel driven was the from Westbourne shaft to the Marble Arch shaft, the distance being over 1,200 yards, and the work resulted in an error of only ⅛ in. at the point where a junction was effected with the tunnel driven by another firm of contractors. In two of the sections boreholes were put down into the tunnel for the purpose of testing the lines, but generally the lengths were driven through so accurately that no recourse to boreholes was found necessary. Constant attention was required to keep the shields to the proper line and gradient, and this was more particularly the case with the smaller or running tunnels of 11 ft. 8¼ in. diameter. The larger station and cross-over tunnel shields demanded less attention, because the number of rams proportionately to the diameter was much greater than in the case of the smaller shields. Where sharp curves of from 3 to 5 chains radius had to be followed it was found advisable to assist the shield by slightly cutting away the clay round the cutting edge, for the purpose of avoiding any undue strain on the apparatus. In the case of the small shields on the western section of the line progress was very much facilitated by the application of an arrangement of air-driven pumps, designed by one of the works managers, Mr. A. Woodroffe-Manton, M.Inst.C.E. The pushing forward of the small shield with the ordinary system of hand pumps often occupied as long as forty-five minutes, but with the air-driven pumps no more than five minutes was required for the same purpose.

About thirty shields and a staff of 3,000 men were employed in constructing the tunnels. As usual in such work the tunnels are lined with tubes built up of cast-iron segments, and the small concentric space between the lining and the solid clay is filled with a grouting of hydraulic lime and water, forced by compressed air through small holes provided in the segmental castings. In this manner the iron tunnel is immovably fixed in the clay, and, besides being perfectly protected, it is capable of withstanding any strain which can possibly be anticipated.

ROYAL INSTITUTE OF BRITISH ARCHITECTS:

GENERAL ARCHITECTURAL CONGRESS.*

On Thursday last week members of this Congress visited in the morning University College Hospital Extension, Gower-street, W.C., and were shown over the building by Mr. Alfred Waterhouse, and in the afternoon members visited Stafford House and Bridgewater House.

Visits to University College Hospital Extension and to Stafford and Bridgewater Houses.

On the morning of Thursday, Mr. Alfred Waterhouse, R.A., took visitors over his extensions to University College Hospital. In the afternoon, in spite of pouring rain, some 150 members of the Congress visited Stafford and Bridgewater Houses. Mr. Fish, the surveyor to the building, conducted the party over Stafford House. The house was begun by Sir Robert Smirke and continued by Benjamin Wyatt, and it belongs to the Duke of Sutherland, by whose kind permission the visit was made. The thanks of the Congress are also due to the Earl of Ellesmere for throwing open Bridgewater House, one of Sir Charles Barry's buildings, to the Congress, and for the unrestricted liberty afforded to members of wandering through the rooms on the ground and first floor, including the noble picture-gallery.

The Education of the Public in Architecture.

In the evening a meeting was held at No. 9, Conduit-street, Regent-street, Mr. J. M. Brydon, Vice-President of the Institute, presiding.

The Chairman said that the subject for discussion was the education of the public in architecture, and no doubt it had been observed by those who were attending meetings of the Congress that previous papers and discussions had been leading up to this one. They had already discussed whether or not there should be public control in the design of public and private buildings; then they had discussed the question of the co-operation of the various arts, while the previous evening they had had under consideration the ideal city. None of the objects aimed at by the speakers in those discussions could be achieved unless the public were educated to appreciate the value of artistic work. Architects were at a great disadvantage unless the education of the public in these matters could in some way be advanced. He would call on Mr. Reginald Blomfield to read a paper on the subject.

Mr. Blomfield then read the following paper :—

"The subject on which I have been invited to address you to-night is one of such difficulty and so closely connected with wider questions that any reflections I may offer you are only in the nature of prolegomena. That such a subject should be suggested for discussion at this Congress is significant, for it points to the fact, with which we architects are painfully familiar, that the public does want educating in architecture very badly; and, in saying this, no imputation is made against our individual clients. The mere fact that they come to us shows (at least, we think so) very excellent taste, and though this impression is not always maintained, and occasions have been known to arise in which the architect has had to admit his inability to cope with his client's tenacity as to plate-glass and other matters which vex the souls of the righteous, yet, on the whole, and properly handled, the client will usually follow his architect's lead. I shall, therefore, not attempt to deal with that most tempting subject, the intellectual relation of architect and client. What we are concerned with here is the general standard of intelligence in regard to architecture; the appreciation and misappreciation of the art as shown by current judgments, whether in the Press or elsewhere;

* See our last issue for a full report of the first three days' proceedings.

the evidence of taste displayed in actual buildings which reflect the average opinion of the times. The attitude of the man in the street is the problem with which we have to deal.

Now I fear there can be very little doubt that this attitude is far from satisfactory. I think that any competent observer who took note of the average of architecture in our great cities would be driven to the conclusion that the general level of taste and ability is low; further, he would find that some of the least admirable of these buildings were the most admired; and, lastly, if he compared his observations not only with the criticisms of the Press but with individual opinion, he would find no common standard of appreciation, merely a mass of unrelated judgments, amounting to little more than individual expressions of like or dislike. He would, in short, find public opinion on architecture in a state very little removed from chaos. He would find that there is no intelligent body of opinion to which a competent architect can appeal as a matter of course, and that the public in the pursuit of architecture are like sheep without a shepherd. The uncertainty of taste shown in the treatment of public buildings of the last fifty years—shown I do not mean by the architects, but by the authorities responsible—is conclusive evidence of the confusion of judgment which exists in the minds of our representative public men. First we had the Houses of Parliament, then the Foreign Office, then again the mediævalism of the Law Courts, and now (I think fortunately) the Classic of the new Government buildings. It is evident that the authorities have had no sort of principle to guide them, and so the pendulum swings backwards and forwards. Unhappy officials, burdened with a responsibility of taste beyond their capacity, catch wildly at the passing fashion. The chief idea seems to be to make a desperate bolt for cover; as for any consecutive tradition of taste, any steady development of ideas on architecture, the case seems as hopeless as ever.

It has been suggested that this state of affairs is inevitable, that it is the penalty we pay for the individualism of English genius; that though the French do in fact possess a traditional standard of taste and technique, they do not reach the excellence attained by Englishmen in isolated instances. There may be some truth in this view; we cannot have a school, and at the same time have genius breaking out in all sorts of different directions at once. That we have no school in this sense is quite certain, for the Academy exists for other purposes; but it is to be doubted whether we nowadays produce genius in sufficient quantity to compensate for this absence of tradition, and, at any rate, this deficiency has not always been characteristic of English architecture. If, in the last century, Mr. Vardy or Mr. Ware, Mr. Wood, of Bath, or Mr. Flitcroft were called upon to design a building, they knew exactly what they had to do; they had no necessity to clear the ground by a long preliminary discussion as to the style to be adopted. Given the client's general instructions, everything followed as a matter of course. The workman had all his details at his fingers' ends, and the client would have been much surprised if he did not get a house up to the accepted standard of taste, and as like as two peas to the nine hundred and ninety-nine 'seats of the nobility and gentry' then being erected in every part of England. Everything went as smoothly as clockwork. Such a state of affairs has, of course, its defects. It may lead to dulness, pedantry, and stupidity, yet architecture is so difficult an art that it is only by long-continued effort on familiar lines that any excellence may be attained; and without this state of things we should never have reached that complete accomplishment within prescribed limits, that clean precision of workmanship, which is so essentially characteristic of early eighteenth-century work in England.

But about a hundred and fifty years ago a new element appeared. The amateur and the virtuoso assumed an importance they had never previously enjoyed. Distinguished noblemen dabbled in design. Eminent men of letters amused themselves with architecture. In 1750 Horace Walpole writes:—'I am going to build a little Gothic castle at Strawberry Hill'—ominous announcement of the impending change; and in the next few years Walpole completed his ridiculous house, to the admiration of all his acquaintance. The worst of it was that, though perfectly absurd in his notions of architecture, Walpole was a man of brilliant literary ability and a reasonably good connoisseur. Moreover, he thoroughly understood the temper of his class, and the consequence was that his ideas 'caught on,' and were accepted by a good many foolish people as a necessary part of polite taste. Moreover—and this was where the mischief came in—they took their place in that Romantic movement in literature which was soon to overrun the whole of civilised Europe. It is rather curious to reflect that the eighteenth century, supposed to be *par excellence* the century of logic and lucidity of thought, should have seen the birth of that confusion of ideas as to the limits and relations of the different arts from which we suffer at the present moment. Joseph Spence, an intimate friend of Walpole, wrote an elaborate treatise to interpret plastic art in terms of poetry, and, though this book was pulverised by Lessing, his fallacy, or rather the temper of mind which admits of it, is extant to this day. Walpole subordinated architecture to the elegant insincerity of his own literature; and the loss of all tradition in taste and standards of judgment was now only a question of time. Literary men had got the control, and it was not for mere architects to dislodge them. Moreover, these very architects were too often their humble and obedient servants. Though Chambers, last of the Romans, made a determined stand for the old ways, Robert Adam devoted his extraordinary cleverness to the introduction of a new manner in design; the Dilettante Society had set the ball rolling, according to the latest lights of Stuart and Revett; and now there was this direct attempt being made to reproduce Gothic architecture in obedience to a purely literary sentiment. It was hardly to be wondered at that the layman should lose his bearings. In the heat and turmoil of all this revivalism he might be pardoned for thinking that taste in architecture was a mere matter of pitch and toss.

Thus this century opened with three styles struggling for ascendency—the old traditional Classic of Chambers and his school; the new Greek method, which was to be carried to such a high degree of excellence by Decimus Burton and later by Thompson of Glasgow; and, lastly, this revived Gothic. All architects of reputation followed one or other of the first two manners. The amateurs stuck to the Gothic, and the amateurs carried the day; but when one considers that the whole force of the Romantic movement was behind them the result is not surprising. So Wyatt, or Wyattville, or whatever he chose to call himself, started his career of architectural murder. Then Pugin followed, and threw himself into the cause with the enthusiasm of a very ill-regulated mind; and then came Ruskin, a man of narrow prejudice but brilliant genius, whose eloquence won a sort of St. Martin's summer for the Gothic movement, prolonging its life quite two generations beyond its appointed time. I need not follow further the familiar history of the Gothic movement, but there is one important conclusion which I should venture to draw from this hasty survey, and it is this: All these men, from Horace Walpole to Ruskin, seem to me to have laboured under one very serious vice in their handling of architecture. If I may say so, they all took their eye off the ball. Walpole treated architecture as a subordinate expression of literature. Pugin, and still more Ruskin, translated it into terms of ethics. The result has been that the idea of architecture as an art, with its own limits, its own technique, and its own ideals, has been forgotten, and one has almost to say lost. Volumes of eloquence as to the moral beauty of certain forms of architecture not only teach one nothing but are actually misleading as to their artistic value. For an architect may be a very good man, and design and build with the utmost sincerity and moral enthusiasm, but his work may be exceedingly bad; witness that childish building the Museum at Oxford. And, on the other hand, it is very well known that artists of distinguished ability, whose work has had a singular fascination for intelligent judges, have been, to say the least of it, not immaculate. The critics have, in fact, set up an irrelevant standard; they have concentrated attention on matters which interest them, but which have no more to do with architecture than with bootblacking; and we stumble here on some of the radical defects of serious English criticism. That strenuousness on which we pride ourselves has the result either of making our critics take their subject as a text for their own rhapsodies, or else it drives them out into action in the form of a directly moral application. They seem incapable of that cool and equable sympathy with every man on his own merits, that patient waiting on the development of genius which gives its extraordinary value to such criticism as that of Saint-Beuve; for the function of a critic is to explain and interpret, not to substitute his own personality for that of his subject.

We have thus arrived at two results: first, that public opinion on architecture is practically non-existent—that is, its judgments tend to be irrelevant and to rest themselves on side issues; secondly, that this has resulted from the subordination of the art to the amateur, more particularly the literary amateur; and the question now arises how this state of things is to be dealt with. In the first place, it seems to me that a fresh philosophy of art is necessary, or, rather, a return to that clear understanding of the limits of the various arts on the lines laid down by Lessing 130 years ago. We have to recover and drive home the truth, that if the arts have some common ground, yet they differ essentially ὑλῃ καὶ τρόπους μιμήσεως in their subject-matter and technique, and what Lessing did for poetry, painting, and sculpture we have now to apply to architecture. We architects have to build up in the public mind the conception of architecture as an art, with its own methods of expression and its own problems. We have to make it clear that architecture is not sculpture and painting, but architecture; that, given the practical conditions to be complied with, the architect has to treat them *secundum artem*—that is, that his concern is with proportions, mass, and light and shade. It is easy to sneer at the old jargon, such as the relation of solids to voids, and the like, yet these remain a general description of the actual difficulties in design that our art has to attack; and our skill should show itself not in the skilful reproduction of other people's buildings, or somebody else's motives, but in this exact adjustment of proportions, in the subtle management of light and shade, of shadows and reflected lights. It is due to the causes which I have endeavoured to indicate above that this conception has been thrust on one side, even by architects themselves. There is, and has been for the last few years, a very favourite watchword among some of us, 'Art is one,' and under cover of this motto the crafts have manœuvred a skilful and insidious attack on architecture. The architect has been relegated to the position of the useful drudge who blows the organ while the craftsmen play on it. His function has been supposed to be that of providing an occasion for the arts of the sculptor, the painter, the metal-worker, the enameller, and all the others of the noble army of craftsmen. If the architect's architecture gets in the way it must get out of it, even to the destruction of the finest architecture in the kingdom; and in this way the architect is considered to establish his claim to be a member, though indeed but a poor relation, of the family of artists. As to this Shibboleth, of course all art is one, also it is not. It is one in the sense that, to the exercise of any art, some measure of imagination and practical invention is necessary, and again in the sense that any work of art is an expression of the human intelligence. In this sense the saying is true, but it is also a harmless platitude. If we try to get at the facts we find that all art is not one; that, on the contrary, each art has its separate province, divided from its neighbour by neutral ground which either may occasionally invade or which they may fairly occupy in common; yet their separate limits ought to be strictly maintained in thought, and both in this and in many other instances the crying need is for clear ideas. It is to this groundwork of thought that I think we ought to direct our attention if we hope to educate the public. It is very desirable that the layman should know the history of the architecture of his own and other countries. His ideas will gather shape and colour from actual instances, and it is almost necessary that he should have some acquaintance with acknowledged masterpieces, in order to acquire some practical standard of judgment. Yet it is the use of this standard that constitutes the real difficulty. It is of very little use having a standard, and even a great mass of knowledge, if you have no idea how to apply it—in other words, it is of very little use to supply the public with facts and pattern-books until the public mind is prepared to receive them, and it is here that the real difficulty of education begins.

There seem to me, generally speaking, to be three channels through which public opinion

can be reached :—(1) by direct school teaching ; (2) by treatises ; (3) by the work of architects themselves. In regard to school teaching, a good deal more might, I think, be done in this direction than any one seems to contemplate at present. In most of our important public schools there is an art museum of sorts, a drawing class, run on rather old-fashioned lines, and usually some intelligent master with a cultivated interest in the antique and a sentimental attachment to early Italian art. Now I am not in the least depreciating the work so done. It is good as far as it goes, and is a very great advance on the neglect of any such teaching habitual thirty years ago. What is wanted is a more complete organisation of this teaching and a more comprehensive scope. Boys—those at any rate with reasonable powers of observation—are quick to pick up impressions, and there can be no doubt that they acquire some valuable elements of culture from the casual information that they are able to gather in this manner ; yet I think I am correct in saying that the boys' attention is called to art, not from an artistic, but from a literary standpoint. Our public schoolmasters are, as a rule, very excellent educationalists ; there are probably none better in matters of scholarship and literature, but they regard the arts from the point of view of the average British public, rather as an elegant and perhaps superfluous accomplishment than as a serious expression of thought. Architecture in especial—I may say it in this company—from every point of view the most important of the arts, is hardly ever dealt with in our public schools. A boy gets some slight acquaintance with Greek and Italian sculpture from the casts in his museum, and learns the names at least of the great painters ; he may also hear something about churches and buildings from the school antiquarian society, but of architecture never a word. I recollect the amazement of my uncle when I went into his office at three-and-twenty and did not know the meaning of a mitred joint ; yet such ignorance was not only the natural but the inevitable result of the school and university education of the time. What I think might be possible would be :—(1) to provide a well-selected set of architectural drawings of well-known buildings, and the simplest possible technical diagrams, such as should be easily intelligible to the schoolboy mind ; (2) to give an occasional reading in architecture, dealing with its simplest points, and illustrated by models and clear drawings. The object of any such lecture should, of course, be merely introductory—that is to say, it should not attempt any elaborate disquisition on styles or even on history, and should carefully avoid any attempt at technical instruction. What is wanted is such a handling of the subject as will call the boy's attention to architecture, and give him an interest which he can develop later if he has any aptitude that way. By this means the ground would be broken up for the more detailed courses of instruction, such as are provided by the Architectural Association, Liverpool and London Universities, King's College, and the like ; and even if the study were carried no further it would leave an intelligent interest in the art, and have an educational value of its own. Some sort of architectural text-book for beginners is, in fact, badly wanted ; but the necessity of extreme clearness and simplicity of treatment, in addition to a comprehensive grasp of the subject, makes the preparation of such a text-book a matter of very great difficulty ; yet it ought to be possible to prepare such a work, and I commend the problem to our professors of architecture. Something has already been attempted in this way in the University Extension Lectures. I have no experience to offer on this subject, but it appears to me that the lecturer labours under two serious disadvantages. In the first place he has to address a mixed audience, mostly of an age at which learning is not so easy as it used to be ; and secondly, he has to make his lecture popular and attractive, otherwise his class falls to pieces. Moreover, so far as I understand, every lecturer is free to follow his own devices, with the result that what one man builds up another pulls down. At every point, in fact, in our attempts at education in architecture we are brought up short by this want of a common standard, this loss of all established tradition.

The same difficulty meets us in the attempt to influence opinion by books and treatises. It was easy enough to lay down the law about architecture, when the Five Orders and their strict observance constituted the law and the prophets. In Wren's time there was no necessity to educate the public. Evelyn did all that was wanted when he translated Fréart's 'Parallels.' But nowadays we have no law ; and if we architects are not agreed among ourselves as to the principles on which we should appreciate each other's work, it is inevitable that the public should be hopelessly at sea. Yet I believe that our differences of opinion are more superficial than serious, more the result of misunderstanding than any insuperable cleavage. Whatever our individual divergences of manner, a really fine piece of architecture is usually accepted as such by most of us, and the problem before us is to disentangle the common ground of judgment on which we undoubtedly act, and to define it in such a form as will be intelligible to the public and a guide to them in their own appreciations, a task again of the very greatest difficulty, and perhaps not the work of one generation, or of one man ; yet I do not think such a result will be indefinitely postponed. The consensus of competent judgment gains ground every year, and in time a method of criticism may be deduced from it, a something far wider and more penetrating than the time-honoured system of the orders.

Meanwhile, and at a lower level, something might be done. It has been suggested that a series of plain pattern-books for builders, giving working drawings of quite simple designs for doorways, windows, and the like, would save us from the utter vulgarity of the great majority of modern buildings in this country. It is well known that on the greater number of such buildings no architect has been employed, but the public is not aware of this, and its vision (such as it is) is being constantly perverted by the worst possible models in front of it. This, at least, we might escape, and the builders of the last century did escape it because they worked to an excellent set of accepted patterns. It would be a most useful and, I think, practicable task if a committee of architects of recognised competence could be formed to superintend the issue of some such series of pattern-books. In the matter of building construction, this has already been very well done in the South Kensington volumes, and it would not, I think, be difficult to supplement this on the side of design.

Lastly, we come to what is, after all, the most important means of educating the public in architecture—our own work. Not only does an architect have a unique opportunity of educating the individual in his relations with his client, but each fresh work should be the most convincing embodiment of his own ideas of architecture, of which the effect, like that of a stone cast into the water, must spread in ever-widening circles far outside the centre of its first attack. We must set our own house in order before we can sweep and garnish that of the public ; and thus the education of the public passes into the more intimate question of the education of ourselves ; and at this point I may fairly leave it.

Perhaps at this moment the two worst faults of our architecture are, first, the total absence of any sense of style, that kind of design which snatches up any sort of detail and tacks it on to any kind of building, and of which there is abundant illustration in most of our new streets. This method we are all agreed in condemning, but there is another and rarer fault, and the more dangerous because it is the vice of a virtue, and this is a certain preciosity, what Pliny calls *Quædam artis libido*, which runs out into frantic experiments after something new and altogether original. This latter habit of mind turns its back on tradition, or thinks it does, and resolutely eschews beauty in its wild attempt at strength. Both of these faults can only be attacked by a more thorough and intelligent education of the student, and by a clearer appreciation in our own minds of the province and ideal of architecture.

In the first sentence of this paper I mentioned the extreme difficulty of this subject, and I have endeavoured to show that the state of public taste at present is due to deeply-seated causes—causes so difficult to reach that one might almost be tempted to despair of the future of architecture. Our best ground of hope is in the excellent work being done by individual architects, and in the agreement, rather than disagreement, of critical judgment which exists among ourselves. Such an agreement must, in the long run, influence public opinion. What we experts say in this generation will be matter of common knowledge and acceptance in the next. It should be our work, therefore, to clear the air of misconceptions, and to endeavour to build up again an æsthetic judgment which shall be independent of styles and fashions because it rests on the essential facts and conditions which lie at the root of all good work in architecture. We cannot ourselves expect much immediate result, yet perhaps our children's children may enter into possession of the promised land."

Professor Simpson, of Liverpool, said that the interesting paper which Mr. Blomfield had read covered the ground so completely that little remained to be said. The few remarks he had to make would be confined entirely to the culminating point of Mr. Blomfield's paper, at which he said that architects might leave the subject. In his (the speaker's) opinion the education of the public in architecture depended entirely upon the education of the architect. It was on the architecture of the day, the work which was being produced at the present time, and not on the work which has been produced in the past, that the education of the public in this matter must entirely depend. It was a well-known truism in education that the first thing was to interest people in order to educate them. It was quite true that people could to a certain extent be interested in architecture in the way Mr. Blomfield had suggested—in classes at school, in University Extension lectures, &c. But the interest aroused by such means was very likely to evaporate, or, if carried too far, would result in the raising of an absolutely false standard as to what constituted architecture, because that standard would be simply and purely an archæological one. Consequently he fell back on the line that the only way to educate the public was by interesting them, and the only way to attain a sustained interest was by the works of architecture around them, *i.e.*, by the works which contributed to their comfort and convenience. It was, therefore, practically by the works of architects themselves that the public must be educated, and he was certain that his hearers would agree with him when he said that the architect must always lead, and the public always follow. They saw the bad effects of the opposite at the beginning of the century, when, at the time of the revivals, a part of the general public was educated in architectural matters in advance of the mass of practising architects. The result was that the general public that gave commissions also dictated the standard, and the architect became a kind of undertaker, differing from other undertakers in that instead of lowering dead bodies he was employed in raising dead ideas. That was really the result of the dilettante obtaining possession of the field and dictating to the architect what was to be the standard employed. Exactly the same thing had happened within the last quarter of a century, in what was commonly called the minor arts. Twenty-five years ago the revived interest in these arts led to rather curious results when the public began to take an interest in them. It was quite true that artists had emancipated themselves since, but when the public began to take an interest in them the immediate result was to create a craving for the antique and to foster and encourage the art of line in dealers of old furniture, so that the standard of the amateur was turned almost entirely to retrospection. The general public went away, saw, admired, returned and desired to copy ; but with the artist it was quite different ; when he went away he saw and admired, but his one idea on his return was not to copy, but to advance. Therefore, if the public were educated to such an extent that they dictated the standard, their standard being a retrospective one, the architect's standard of advancement would not have much chance. The remark that the demand created the supply did not follow in architecture : we could not have good work merely by crying for it. It was sometimes, in order to enforce an argument, a good thing to suggest an impossibility, and there were two impossibilities he would put before them. Let us suppose we had a public educated so as to appreciate the most beautiful work of architecture, and a race of architects quite incapable of producing that work : what did the public education matter ? Secondly, suppose we had a public willing to be pleased and not particularly critical, and a race of architects to whom bad work was an impossibility. What did the disapproval of the general public matter in that case ? All work would be good, whether they approved or not. It might be said that we should never see the time when all work

would be good, and though that might be true, it must always be borne in mind that there had been such times in the past, and there was no particular reason why they should not occur again. It should be our aim that all work in the future should become good. The advance in architecture during the last twenty-five years showed that this was not such an impossibility as at first might appear. Architects received encouragement from the public and the public demanded something different from the common-place. That their taste was not always good was probably not their fault alone. All who lived in large cities knew the kind of work by which people were surrounded—the kind of work which educated the public. Knowing that, they could think of the kind of work which ought to be there. Still, if buildings improved at the rate they had done during the last twenty-five years, there would be no need to read papers on the education of the public, for that would follow as a matter of course. All, therefore, we had to do was, as Mr. Blomfield said, to put our house in order, to educate ourselves so that we could educate others and not to be deterred by the fact that although we might sow, it would be others who would reap.

Mr. Basil Champneys said he was one of those who took rather a gloomy view of the prospect of architecture at the present time, and he believed the evil was even more deeply-seated than many might expect. He differed from the last speaker, for, however good our architecture, he could not see how it was to flourish without popular appreciation, or how there was to be a market for it if people did not choose to go to the market. There was no question that the other arts had suffered from this want of appreciation almost as much as architecture. Painting, until some few years ago, was exceedingly flourishing; but his belief was that the demand for it was in a great measure fictitious, and largely founded on financial speculation in the purchase of pictures. When this was exploded, popular love for it was shown to be practically non-existent by the great diminution of purchasers. Sculpture had comparatively little scope; popular judgment thought it a necessary completion to certain public buildings, but otherwise showed little love for it as mere art. Still, with both these arts, there was a certain fashion of appreciation and a more or less organised body of criticism—of whatever value it might be. But with regard to architecture this was altogether lacking, and there was no criticism which was in touch with the general public. The architectural room at the Royal Academy was considered by the ordinary visitor as a kind of accessible home for the concentration of such illustrations as appeared more sporadically in the auctioneers' windows; every man was a law to himself in such matters, and the architectural critic, as regards popular influence, could scarcely be said to exist. If this be the case, we seemed to be altogether dependent on a public taste which neither was adequate nor wished to be improved, and for the education of which no systematic method existed; and it was important to know what was the standard of natural taste on which the architect depended for appreciation. He feared that this consideration did not lead to much encouragement. They themselves knew fairly well in what architectural art existed, and this was exactly what the general public entirely failed to recognise. He would give a few instances. He had been accustomed to look with pleasure on a house which he often passed. Though it was in a style for which he had no special affinity, it was the work of an artist, marked by reticence and severe restraint. The other day he saw not far from it a definite attempt to reproduce it without the aid of an architect. The imitation, though close, resulted in the grotesque; it was a hopelessly stupid parody. He had no doubt, however, that it satisfied the owner, who probably congratulated himself on achieving a satisfactory result without having to pay an architect's fees. The same process, of which this was a salient instance, was to be seen almost everywhere. One had got almost to dread any new departure on the part of an original architect because of the certainty that it would shortly be vulgarised and brought into contempt by some stupid and grotesque imitation. The evil was widespread, and, so far as he could judge from results, the faculty of recognising artistic handling in architecture was yearly on the decrease. The speculator was rapidly gaining ground. Every year saw a larger proportion of buildings erected to which no one who by the utmost expansion of the term could be called an "architect" had had anything to say. A short time ago he happened to be walking with an architect friend in a district a few miles from London which had lately greatly increased. They determined, for amusement, to notice the many rather large houses they passed, and to see how many could be attributed to any sort of architect. In a walk of about a mile and a half they saw one, and that they found had been built by an architect for himself. But probably many of the owners of these houses were so-called men of taste; many of the interiors were no doubt decorated with "artistic" wall-papers, and doubtless the style had been in many cases made a point of by the building-owner. It was only the artistic touch, the essential of architecture, which was independent of and above all questions of style, to which all had been equally blind. But he was not sure that the absence of the regular so-called architect had always, or under all conditions, been a calamity to art. Many of the, to him, best buildings of past times had been built by those who could not call themselves architects at all. For instance, Professor J. W. Clarke had shown that the very fine river front of Clare College, Cambridge, was built by the Cambridge builder of that date. But how different were the conditions under which such people worked from those of the moderns. We had only to study the handbooks with which the workmen of former days were equipped to see how carefully they must have trained themselves in all the details. It did not seem to matter much whether the designer were called "architect" or "builder" so long as he possessed the necessary knowledge and skill, but the contemporary speculative builder was equally deficient in both. A client of his once started building a house which he had designed by a local builder; but he got nervous about it when he saw the plans, and got him (the speaker) to see the designs; he declined to interfere with the exterior, though he got the builder to alter the plans so as to make the rooms livable. The result was what might have been expected: his friend did not realise that the builders of past days had a great deal more knowledge than some of the so-called architects of these days. He had put before them a rather pessimistic or discouraging view of the present, and he had not much to say that was encouraging as to the future. He very much doubted, even if the work of architects was raised to a uniform standard, whether that would do much good if the public did not want good architecture, and if the public were content with the speculative builder. Some good might be done by some of the methods which Mr. Blomfield proposed, though he did not look with favour on what he said about pattern-books of windows and doors, for he was afraid that the speculative builder, with the encouragement of the client, would put the wrong windows to right doors. He believed there was plenty of architectural talent abroad which would do what was wanted, and abolish the speculative builder, if only the public rose to the occasion. Were they likely to do that? It seemed to him that a flank movement in architectural strategy was necessary. Mr. Blomfield's "History of the Renaissance" was precisely the sort of thing for the public—a work of a high literary standard, which many people of literary attainments had read as a book, even when they had no particular interest in the art. In addressing public bodies he had tried to interest them in architecture quite indirectly. If he had given out that he would address them definitely on architecture, they would not have attended. He also thought it well to attract people by showing a knowledge of the practical—superior to that attainable by the speculator—for the public could understand points of that kind, though they could not understand points of art. Better times for art might possibly be inaugurated as a consequence of the war, and of the recent national crisis, or of any other crisis we might have to go through.

Mr. E. S. Prior said that difficult as the subject was said to be, clearly it was an attractive one for architects to talk about, since it had cropped up at all the sittings of the Congress. Now Mr. Blomfield had laid down an excellent plan of campaign for the treatment of the public, and had set forth what might be called the strategy and tactics of the matter. From the raw recruit just learning to handle his T-square to the general at the front (the assessor in a national competition), all banded together with an imperial idea that they would advance as a great army to carry forward the flag of architecture till it waved over an ideal city in which the architect was the all in everything. The only difficulty was the public. They were so ready to lay down their arms, but turned up in the rear again as uneducated as ever. This education of the public was a very old matter, and it was with no disrespect to architects that he likened them to the sophists, but merely in order to observe that those professors of wisdom had never been agreed as to what wisdom was, but only that it was necessary to educate the public in it. Mr. Blomfield had passed over, with considerable agility, the fact that this was no new thing, and also that when literary amateurship, to which he attributed so much disaster, came into being, at the same moment began the education of the public by the architects. The revivalists, Greek, Gothic, Queen Anne, all had done their best, and still the public were not educated. Now it was proposed to educate them in mass and proportion, light and shade. He hoped he would be excused for saying that he thought the public would look forward to that education with considerable equanimity, not to say amusement. As Homer's gods said to men, "Why do you blame us, when it is you yourselves heap up your ills," so might the public say to architects. He was afraid that the public did not get architecture, because architects had no architecture to give them. Except for this, Mr. Blomfield's programme was an excellent one. As the Greek revival produced Decimus Burton, the Gothic, Butterfield; the Queen Anne, Norman Shaw, so also "mass and proportion and the limits of the arts" might give us architects. But as to architecture, when the flood had come and swept all away, when the public began to build without "architects," then and then only would they get architecture.

Mr. Paul Waterhouse, in moving a vote of thanks, said the paper had opened an extremely interesting subject—one which they all thought about at times. Of course, they all realised that the conditions at the present day as regards architecture were vastly different from those of the past, but he could not feel that the ignorance of the public was at the bottom of these changed conditions. In the first place, it was due largely to the great multiplicity of our buildings, and the fact that so many of them were built, not by architects at all, or by persons who were architects in name only. But had the public ever been interested in architecture? He doubted whether there was any evidence to prove that in the great architectural ages of the past the public had shown a learned interest in architecture. If one looked back to the Periclean age, he believed that one might search the literature of Greece without discovering what might be called an intelligent lay appreciation of architecture; and as for Rome, the remarks on architecture which could prove that the writers had anything more than the most superficial knowledge of the subject might be put together on half a page. Pliny the Elder, who was so often quoted by writers on Rome, introduced to be sure a few art criticisms into his Natural History under the heading of "Stone," but did not appear to have a technical knowledge of architecture at all. If it had always been so with the public, he did not think that the outlook was necessarily bad because the public knew so little of architecture now. There was a worse thing than ignorance, viz., the nescience of ignorance. He might be permitted to make an analogy. It was dangerous to compare an art with a science, but one might compare, for a moment, architecture with medicine. Architecture, it might be said, was an art which dealt with common needs with which every one was concerned; therefore the public could not afford to be ignorant of architecture. That was exactly the same with medicine—the body was, at all events, as intimate to human beings as the house they lived in, and it might be expected that people should know about medicine. Happily, they did not, and they went to the doctor. But architecture was such a simple kind of thing that a good many people imagined they knew all about it. The man who would not think of doing without his doctor frequently thought of doing without his architect; and if one could pursue the analogy farther it would be

rather nice to hope that architects could do in architecture what was done by doctors in hospitals, namely, to establish architectural hospitals, in which men who did not employ architects should be architecturally treated gratis. Architects would not gain financially, but the country would gain in art. He thought that they should leave the public alone in this matter. We could all say what we liked about the public, because every individual of the public knew he was not being alluded to under this title. Architecture was rather a big thing for the public to be educated in, though he did not wish that they should stand in the way of any members of the public should they wish to know all about it; but it always seemed to him that one was learning something about architecture every day, and the more one learnt about architecture the more one felt one's ignorance about it. It was easy to teach the public the outlines, the A B C of architecture, but that deeper knowledge which could give them the critical faculty could not be imparted without a very great deal of study. There were a few architectural laymen who had that thorough knowledge, but one could not speak of them as the public. As Mr. Blomfield had hinted, architects had really their own house to set in order; there must be no ignorance amongst architects, and it was to insure this that there were to-day architectural schools and examinations. There were many architects who were enemies to examination, but they were all agreed that we could not make an architect by examination. Friends of examination did not regard it as the winged sandals of Mercury, but as a prosaic means of making sure that ignoramuses were not let into the profession. It was the general education of architects that was wanted to command respect and not a mere knowledge of technicalities.

Mr. John Slater, in seconding the vote of thanks, said that one suggestion brought forward by Mr. Blomfield was an exceedingly useful one. As Mr. Waterhouse had said, one could not expect the public to have a great technical knowledge of architecture, but at any rate the public could be taught to take an interest in it; and the remark he was struck with was that about giving schoolboys some slight acquaintance with architecture. Every one who had seen the schools of average schoolboys—he did not mean Board schools, but the big schools—must have been struck by the intense dulness and ugliness of a great many of the rooms in which the boys worked. That seemed to be a thing which could be easily altered, and if the class-rooms in which our boys and girls were taught history could be embellished by good photographs or drawings of our cathedrals, the scholars would then, at a very early stage, begin to realise a little of what was such an important thing—viz., the great connexion between the buildings of a country and the history of a country. Mr. Blomfield had alluded to the Cambridge and London University Extension lectures on architecture. He (the speaker) had more than once been asked to set an examination paper and examine the students' papers in connexion with those lectures, and he was bound to say that the syllabus of the lectures in many cases appeared to be very different from what they might be, with one exception, viz., the syllabus provided by Mr. Arnold Mitchell. That was a most admirable syllabus, illustrated by delightful sketches which could not fail to interest all. The students' papers he had looked through had convinced him that even such a slight knowledge of architecture must be a very great interest and use to the people who had gained it. They might go on a journey, and would be able to take a little more interest in the buildings they saw than they would have done had they known nothing about architecture. As to the effect of such education on modern architecture, he did not think it would be much, and as to that, it was architects, and architects only, who must think of education and inspiration, and, as Mr. Waterhouse had said, go on learning every day of their lives.

Mr. Beresford Pite said they ran a great risk of forgetting an all-important truth that a little knowledge was a dangerous thing, and the education of the public, unless it were an education as complete as the education of the architect, would possibly do the architect more harm than good. The only education of the public that could be of any good to the architect was an education that placed the public above the level of the architect, so that the client, instead of dictating ignorantly, improperly, and unwisely to the architect, should direct him with wisdom and sagacity to achieve something which otherwise the poor architect would not have been able to do. He was very much afraid that that ideal must be left, with Mr. Milner's delightful ideal city which they had heard about the previous night,* to the dim and distant future. But, to be practical and not to be pessimistic, did the education of the public in architecture matter to them at all? The education of the public in building construction was something obviously for the benefit of the community. The public needed scarcely any incentive to get educated as to their domestic requirements, the arrangement of their warehouses and commercial buildings, while the architect often had to suffer dictation from all sorts of ecclesiastics in regard to the erection of places of worship. The point Mr. Blomfield, in his eloquent and interesting paper, insisted on was the education of the public in the artistic side of architecture, and he (the speaker) suggested that that was altogether a banality. Architects did not wish nor want it, and the public were better left in whatever delightful simplicity as to architecture they might be in, while architects should pursue their studies with all the enthusiasm they could. The art of ladies' dress, of military uniforms, and, to a certain extent, the heraldic elements, were living arts amongst us, and free from the artificial influences of revivalism; whereas the art of architecture was an artificial one. Let them leave the public to cultivate those simplicities that delighted them and leave the architect to the superior wisdom which he could not afford to do without in these indifferent times. If seemed to him that there was a very important fact in Mr. Blomfield's review of the circumstances which had led to the present situation, which must not be overlooked. Mr. Blomfield started with Walpole's little Strawberry Hill villa. Of course, that was followed by Beckford's atrocity at Fonthill, and James Wyatt's ubiquity in all the styles. But parallel with this apparition of the tastes—for it was only taste, a Chinese taste which one saw in Kew Gardens; an affectation of the grotesque—was a deep and enthusiastic artistic appreciation of Greek work derived from a sane and healthful study, which none could deprecate, of the remains of Greek work. Stuart and Revett were the pioneers, and the movement culminated in the work of Cockerell. Then we were brought face to face with that flaming portent Burges, whom no one could accuse of artificiality; he was a burning enthusiast animated with the idea that Gothic was the only art, and which he practised as an artist. The rival enthusiasts were the Classic enthusiasts, who saw in Italian Classic the necessary perfection of domestic buildings, and the friction between the two schools was sincere and unartificial. Could we afford to do without that flame of enthusiasm which was cultivated and based upon the study of ancient architecture? We had left meddling with the ashes and were practically throwing cold water on our enthusiasms, and now we were going to educate the public! Until we could set our house in order and establish a canon which would again raise our enthusiasm and recreate the interest which had gone, we should be helpless and powerless to appeal to the public. What was needed was intelligent criticism of architecture—a school of criticism. What was wanted was guidance in the matter, and of that there was very little indeed. It seemed to him that there was ample scope in surveying the work of the last century for very careful critical work. We could look down on Ruskin and talk of the summer of his Gothic enthusiasm which was unduly prolonged. We were already hungering after the Greek afflatus, and there were signs that it would again exercise an influence on our public buildings; but we must not plunge into mere revivalism. Let them examine a building as a building, apart from its relation to past styles. Mr. Blomfield's mention of the proper appreciation of void to solid, of the play of light and shade, the value of outline, and mouldings, the concentration of ornament and the appreciation of colour quite apart from any detailed examination of style, were all subjects in which architects even were not trained, and in which they might very well train themselves. What were wanted were eclectic classes, not for the purpose of reproducing, in a horrible mixture, all architectural history in picture-books, but in order to gather the value of form apart from mere antiquarianism. The real public that they might with advantage educate was not the public from which architects derived clients, or the public which favoured them with criticism in the daily Press; it was the jerry building public, and if free classes for the education of the jerry builder in architecture, with a supply gratis of designs for street houses, could be started, we should be doing a great deal. Jerry loved ornament, but he had sense enough to see that a building was cheaper without ornament than with it. But the cheaper architecture or anything else was, the more it was ornamented—the plainer articles of every-day use were the more expensive. That ought not to be so, and if they could get hold of Jerry and explain to him that plain tiles were better than ornamental ones, he thought that good would be done to the community at large. He was rather afraid of the pattern-book, for people were not the simple children they were, and they learnt from the pattern-book, without being better for doing so; and he was afraid that to the jerry builders it would certainly do more harm than good.

Mr. E. W. Hudson said that it really seemed desirable to know what to teach the public. As regards questions of taste, he agreed with Mr. Pite that in educating the public they might be creating a kind of Frankenstein's monster, which might have very disastrous consequences for them. As he understood it, the taste that it was desirable to produce in the architecture of the day was that which should express the wants of the day, not of any previous period; and the wants of the public of to-day were such, he was afraid, as architects could not conscientiously carry out; for instance, the heavy superstructure which seemed to be carried on plate glass windows, to which reference had been made the previous day. The suggested school of criticism was a very good idea, but if the critic were not to impress his individual taste upon learners he did not see what the benefit would be.

Mr. H. G. Ibberson said he had great sympathy with Mr. Pite's remarks, especially when he deprecated too great a knowledge of the public in architecture, for he had suffered during the course of a short life a great deal in that respect. There were three stages in relation to the public feelings about art. In the first, the public knew nothing, or cared nothing about it; in the second, the public thought it knew, but did not know; and the third stage, which they might one day arrive at, was where the public had an intelligent knowledge and interest in it. He was inclined to think that we were in the middle stage, in which the public had no definite ideas at all. That being so, he thought that architects were sometimes a little cowardly in their attitude. He recently had had some decoration to do to a Nonconformist chapel—a type of building, as a rule, not particularly beautiful; in this case he was not obliged to acquaint his clients with what he was going to do. He told them as little as possible, and instead of indulging in the familiar glitter of pitchpine and varnish, he treated the wood with dull stain, and enriched it with copper, and generally did things entirely opposite to their preconceived notions. Much to his surprise the work was appreciated by his clients. He had heard it said that architects in competitions did not put in their best work, but work which they thought the public would like; that, of course, was detrimental to the true interests of art. The suggestion was made that a certain pattern-book should be issued for the use of builders, and the criticism that the right door and the wrong window might be put together seemed to be very apt; something could, however, be done, he thought, in the way of improving the sections of stock mouldings. Mr. Blomfield was not quite kind in his reference to Ruskin, and his views as to morals and art. He (the speaker) did not mean to say that shown art was moral, and that a concealed girder was a vicious thing; but he thought that morals and art were mixed up to an extent. While the public made the most show for the least money, while a workman under trades unionism did as little work as he could for his money, though isolated buildings of beauty might be erected, architecture would be an exotic and not a natural growth. He believed that Ruskin's writing had done much for architecture, and he should like to add a humble tribute to the greatness of the man and the greatness of his ideas.

The Chairman, in putting the vote of thanks to the meeting, said they must feel specially indebted to Mr. Blomfield for coming before them, for he was not a member of the Institute.

* See our last issue, page 617.

The success of the Congress had been largely due to the help of several gentlemen who were not members of the Royal Institute of British Architects.

The vote of thanks having been heartily agreed to,

Mr. Blomfield, in the course of a brief reply, said the odd thing was that he agreed with most of what his critics had said, but he must correct one or two inaccuracies. He had certainly not suggested, as Mr. Prior seemed to think he had, that the public should be taught the technicalities of proportion, mass, voids and solids, and so on. It would be useless to do anything of the kind, and what he had said was that architects should study these matters. At present most of them, and especially the younger men, appeared to ignore them. Another point raised by Mr. Prior was whether an architect was an architect or not, for that was what it came to. Mr. Prior said we should not get architecture until we got buildings designed by men who were not architects. The meaning of this he could not grasp. He could not seize the precise point at which a man ceased to be a builder and became an architect. In any case, the point seemed to him immaterial, and to be merely playing with words. As to pattern-books, the suggestion was not his own, but was in fact first made by Mr. Lethaby some years ago. Whether the suggestion was practicable or not it was difficult to say, and no one had even suggested that architecture would be obtained by this means. All that could be arrived at was a certain irreducible minimum of expression, and a means of escaping the prevailing vulgarity of builder's ornament. Some of the speakers had assumed that what he had been driving at had been the reintroduction of strict Classic. Strict Classic in the sense assumed by the speakers was just as poisonous as strict Gothic, for in both cases the assumption was that it was to be an exact revival of a past style. What was wanted was to get people to conceive of architecture apart from styles, and not to identify it necessarily with any given style at all, whatever their personal preferences might be, and those qualities to which he wished architects would address themselves were involved in all good architecture, no matter what the style. As to the public, it seemed to be generally admitted that from this point of view the public was hopeless, and this was what he thought himself, and in writing his paper (the subject of which he might explain had been supplied him, and was not his own choice), he had merely suggested what he thought might be the best method of dealing with the public, but he was not in the least sanguine that anything could be done, and his one idea was that architects should give up worrying about the public in this matter. They should satisfy their own artistic standard, and when they had done that the public would probably be satisfied, if not immediately, yet in due course. The whole gist of his paper was that architects had to deal with themselves if they hoped to educate the public.

The meeting then concluded.

Friday.—Building By-laws.

On Friday morning a meeting of the Congress was held at No. 9, Conduit-street, Mr. W. M. Fawcett, Vice-President of the Institute, in the chair, when Mr. Lacy W. Ridge read the following paper on :—

The Responsibility of Local Authorities in Respect of Building By-laws.

"It may be present to the minds of those who are members of the Royal Institute of British Architects that on June 12, 1899, that body passed unanimously a Report drawn up by a Special Committee on Building By-laws in the non-Metropolitan districts of England and Wales. Among the suggestions of the Report was one that the Local Government Board should be requested to receive a deputation on the subject of these by-laws. On October 26 last a deputation which had to be hastily got together, and was consequently not as fully representative as might have been desired, waited at Whitehall on Mr. T. W. Russell, M.P., the Parliamentary Secretary of the Local Government Board. Several of the permanent officials of the Board were present. The immediate result I may describe to you in the Report sent to the Council of the Institute and published in the *Journal* on November 11, 1899.

'The deputation, referring to the report addressed to the Local Government Board by the Institute, laid before Mr. Russell the views of the Institute on the advisability of grouping the model by-laws for non-Metropolitan districts in England and Wales, with the view to the adoption of such groups, and such only, as were applicable in particular localities; and the exemption from certain groups of by-laws of detached buildings standing within their own grounds; the uncertain requirements of Local Authorities as to the drawings required to be deposited, and their declining in some cases to give the grounds of their objections where approval of plans is refused; the establishment of a special technical Tribunal of Appeal; the extension to the provinces of the London system of dealing with rights as to party-walls and other questions connected with the administration of building by-laws.

Mr. Russell, in reply, said that as regards the principle underlying the Report, *i.e.*, the advising by the Local Government Board of the Local Authorities as to what by-laws it would be best for them to adopt, it was always a delicate matter, owing to the jealousy of Local Authorities at the interference of a central authority. He thought the question of grouping the by-laws was a fair point for consideration. As regards the demand on the part of Local Authorities for drawings, such bodies often exceeded their rights; but in some instances powers were given to Local Authorities by special Acts. At the stage reached by the present Parliament, he could hold out no hope of legislation on the questions involved, but everything had been carefully noted, and should be submitted to the consideration of the expert advisers of the Board, who would report as to the extent it would be possible without legislation to meet the views of the Royal Institute. In conclusion, Mr. Russell asked whether it would be possible to confer with the deputation again. An answer having been given in the affirmative, the deputation thanked Mr. Russell for his courteous hearing, and withdrew.'

If the exigencies of an aged Parliament rendered legislation impossible in October, the crisis through which the country has since passed has filled not merely Parliamentary officials, but the general public with anxieties and considerationsof such tremendous moment, that the lesser evils which local legislation or administration can cause or cure have sunk into insignificance. It would, in the months that are past, have been useless to attempt either through the newspaper Press, with their well-filled columns of startling and too often sad news, or through any other channel to arouse public opinion on such a subject as Building By-laws.

So far as legislation is concerned we must be content to wait in readiness to impress on a new Parliament the propriety of considering Bills for the extension of the Metropolitan system respecting party-walls to the whole country; for some proper and equitable system of dealing with 'ancient lights,' and for such modifications as may be desirable in the Acts affecting buildings in non-Metropolitan districts. Primarily, however, the report of the Special Committee was intended to deal with the by-laws under existing Acts of Parliament as a matter of administration only. Whether anything has resulted from the consideration of the expert advisers of the Board promised by Mr. Russell I am not in a position to say. It is not inconceivable that at such a time the blessings of peace may have special charms for those who are so comfortably described as 'permanent officials,' and that things are going on much as before; and that vast tracts of open, sparsely inhabited country are still being annexed to an ambitious little town somewhere in the neighbourhood, and the liberty of the inhabitants subjected to 'Urban Powers.' Unfavourable, however, as the circumstances are for vigorous action, I felt that I should be almost 'looking back,' 'after putting my hand to the plough,' if I allowed a Conference of Architects to be gathered from all parts of the country here in London without at least offering to bring forward again this subject of building by-laws, on which we have still so much work before us. The particular part of the report of the select committee to which I wish to call attention is its last paragraph. 'The influence of those who are interested in building would have to be brought to bear upon the Local Authorities to urge them to give effect to the proposed measures of relief by adopting such, and such only, of the divisions of the by-laws as would be applicable to their district or to different portions thereof.'

Gathered in this Conference must be many who have great personal influence with the members and officials connected with Local Authorities, while nearly all must from time to time have dealings with them. Architects collectively and working together (why do not architects work better together?) should have an almost decisive voice in these matters. Any other profession would be recognised as *the* authority on any subject bearing so directly on its work as these by-laws do on our work, and would be allowed to suggest for enactment pretty much what it thought fit. Under the Public Health Act it is the Local Authority that makes the by-laws, and it has power to alter or repeal them by a subsequent by-law. It is merely provided that they shall not take effect till confirmed by the Local Government Board. Now it is necessary that the true position of the Local Authorities should be understood in this matter. Possibly the more important corporations may know their own power, but the constant excuse for harmful by-laws given by members of the smaller bodies I find to be, that the by-laws are thrust on them by the Local Government Board. Mr. Russell, on the other hand, speaks of the jealousy of the local authorities at the interference of a central authority. The explanation of the difference is, I think, that the smaller authorities and their advisers are quite without the knowledge and experience which would make them capable of struggling against the centralised Board at Whitehall, and so take whole what is sent to them. Herein architects as a body might very effectively help these authorities, and I propose to call attention to three special points taken out of the Institute Report as being of particular importance.

The first point on which architects ought to insist is that there should be definite and explicit regulations as to the deposit of drawings. This appears in the body of the Special Committee's Report, page 450 of 1899 Royal Institute of British Architects' *Journal*. The principle is that a block plan, with drainage, public roadways, and adjoining premises, should be deposited and left with the local authorities, and that other drawings should be submitted for inspection, stamped, and returned.

'It is of great importance that the requirements of the Local Authorities as to the deposit of drawings should be reasonable, and that they should be explicitly stated. The Committee suggest that in all cases a block plan, with the lines and depths of drainage shown thereon, together with the nearest public roadway and adjoining premises within 100 ft. of the proposed building, should be deposited, and that, where required, plans and sections (together with elevations, if needful to explain methods of construction) should be submitted for inspection during a defined and limited time; which drawings should be then returned, stamped, if approved, or, if not approved, accompanied by a precise statement of the particulars in which the by-laws have not been complied with.'

It seems to be a sort of tradition at Whitehall that the by-laws cannot go beyond saying that the plans and sections are to be deposited —a wonderful emanation, I suppose from the legal mind. Mr. Russell, however, said he could see no objection to the by-laws making regulations as to the mode of deposit, and no wonder, for what the Act says is: 'And they may further provide for the observance of such by-laws by enacting therein such provisions as they think necessary—as to the giving of notices, as to the deposit of plans and sections by persons intending to lay out streets or to construct buildings.' Note the absence of elevations. 'Provisions as to the deposit of plans,' &c., is surely wide enough for a reasonable and definite arrangement. It is extremely objectionable that unnecessary drawings should choke up the offices of the Local Boards and that architects should be called on to leave there in perpetuity plans of their works, to be studied at their leisure by the local surveyor—possibly a rival practitioner—and by his clerks. If for the public good, persons about to build must make and deposit plans, they should at least be informed definitely what they have to do, and be put to as little trouble and, above all, subjected to as little delay, as possible.

Next I would urge on you to get the Local Authorities to push the adoption of the Institute's by-law on party-walls (Division D., p. 451). It is long to read through and might not be wholly intelligible at once. It gives relief, however, in the case of small houses in two particulars which will be much valued by investing builders; it settles the point up to which the party-wall need not be carried through the roof, so that in exposed situations (as along the south coast), where the difficulty

of keeping out the weather is considerable and the risk of fire very slight, the roof over a row of small houses need not be broken. It would also admit of a single brick party-wall being used in cases where the by-laws now require, and require wisely, the use of one and a half brick external walls. The main charm, however, of treating party-walls in a division by themselves would be that it would enable the Local Authorities in many cases to say: 'You have laid out your streets with ample space, in accord with Division B; you will comply with the sanitary requirements of Division F; separate your houses properly with party-walls, as Division D, and we will trouble you no further; for it is impossible to see how you can be any nuisance or danger to your neighbours, and we will trouble you no more with by-laws.' Taking such a position with small properties, or with pairs of workmen's cottages or villas, particularly in the country, would be a great relief to every one, and do much, very much, to obviate the ill-feeling which now constantly arises from insisting on useless trifles merely for the sake of enforcing the by-laws, as if that in itself were a good and wholesome thing; an opinion only too likely to grow into a fossil in the official mind.

Again, I would insist on the alterations named under Division E on page 452, whereby in a story in a roof, and in the story immediately below the roof (not being a ground story), timber construction and weather tiling or plastering is allowed in place of brick in detached or semi-detached domestic buildings, and also that some credit respecting the thickness of the wall should be given for the tiles in weather tiling nailed to brickwork. Admirable, warm, sound, and picturesque construction, very characteristic of some parts of the country, is being thrust out of use, not because it is defective or has been found wanting, but from pure ignorance, and because the by-laws were founded on the London Building Act. This was primarily a piece of panic legislation after the Great Fire, and directed, and rightly directed, against fire in a town crowded in a way we can hardly now realise. Many of its provisions are inapplicable where wind or rain, which are certain, are far more formidable than the very rare fire which soon burns itself out. The London Act landed us with Gower-street and Harley-street as the normal types of building. It is not for architects to acquiesce in the same sort of thing happening all over in the country through the abolition of local characteristic styles of building.

Finally, let us ask the local authorities to remember that it is local government they have to administer; that they exist, not for the enforcement of a set of by-laws, whether they be useless or not, but for the good of the community; and that their office will be best promoted in the matter of building when they carry with them the intelligent good will of those that build; which they certainly will not attain by curtailing unnecessarily the liberty of the subject."

Mr. W. J. Locke, Secretary of the Institute, then read the following communication from Mr. William Henman, of Birmingham:—

"Having had the opportunity of perusing an advance copy of the remarks which Mr. Lacy W. Ridge has drawn up for to-morrow's meeting, I desire to record my appreciation thereof, and I congratulate Mr. Ridge upon the very concise and temperate manner in which he has stated the case. Although it may be some time ere Local Authorities realise their true responsibilities in the matter of building by-laws, I feel sure that the excellent work done by the committee appointed by the Institute will in due course effect improvement: but it is a matter which must constantly be kept to the front, and reform must persistently be urged in official quarters as opportunities occur. A few years ago the city of Birmingham adopted new building by-laws which, among other things, required greater thickness of walls than had previously been employed. Building-owners protested, but no relaxation was granted until the city authorities themselves determined to erect some artizans' dwellings. They then realised that such could not be built to pay, and had to adopt the undignified proceeding of sending a deputation to the Local Government Board to petition for a modification of their own by-laws. This is one of many illustrations which might be given in proof that many a building by-law is framed or administered regardless of the public welfare"

The Chairman said that as Mr. T. W. Russell, M.P., had remarked, there was always the difficulty with headquarters of calling forth the jealousy of the local authorities; but it was curious that the local authorities should be jealous of the architect. When one came to carry out the by-laws, what seemed so strange was that one should be so bound and tied down to the exact letter, and not to the spirit of the by-laws. It seemed to him that what was wanting in another set of by-laws was a clause making it possible to give a certain amount of freedom in certain cases. The local authority should have power to relax their requirements so long as the spirit of the by-laws was adhered to.

Mr. Ridge said that the Local Authorities were not bound in the least.

Mr. Lewis Angell said the Local Government Board did not allow any discretion, but sometimes they would not take proceedings against anyone who infringed the by-laws: they sometimes shut their eyes, though they would not pass the plans.

Mr. Ridge said he had received a letter from a member from the north who wrote to the Local Government Board suggesting to them that they should cause some Local Authority, in which he was interested, to inforce their by-laws; and the reply he got was that the Local Government Board had taken legal opinion on the subject and they found that they had no power to enforce the enforcement of their by-laws by the local authorities.

Mr. Ralph Nevill said the subject was one of the utmost importance to members who practised in the country and the provinces. Their London friends did not always appreciate the great difficulty those who practised in the country had to contend against in this matter. He trusted the Conference would press on the Institute the need of getting some settlement of this matter which would be satisfactory. No Government department could ever be got to do anything unless it was constantly worried. Permanent officials were content to let things go on as they were. If the Institute represented the architects of the country it was necessary that the members of the council should remember the extreme importance of this question to provincial architects. The Institute must not weary in the matter, and in a case in which the interests of the profession were so much concerned they must continue to work and get something satisfactory settled. The by-laws were quite as offensive to the British public as they were to the architects. The *Spectator* had printed letters for months on the subject, and the whole country concerned with building was alive to the trouble caused by the by-laws, and was anxious for something to be done. It had been said that the Local Authorities were jealous of any interference. That was not the fact, because, in his experience, they were willing to adopt a modified scheme of simple by-laws which would be suitable to little country districts, and on applying to the Local Government Board for ratification to do so they had been informed that the Board would not ratify such by-laws, and that the whole by-laws must be taken, or none at all. These by-laws were drawn up by London architects familiar with London and not with country methods. Some of the provisions were childish. It seemed to him that, as Mr. Ridge had said, they should not ask at present for anything that would involve new legislation, but should work on the lines of the report sent in to the Local Government Board, and so at once get them to relieve Local Authorities from enforcing the requirements in certain cases. Where there was a sensible Chairman and surveyor many things were not insisted on, and the way they got out of the difficulty was to say nothing about any departure from the by-laws. But that put a great responsibility on an architect who might advise a client to take no notice of the rules of the Board. The law was sometimes put in action unexpectedly. Again, a surveyor might permit certain deviations from the by-laws, whereas his successor would not—an experience which had been his (the speaker's). He hoped that this matter would be pressed forward, and that the Local Government Board would have no rest until something satisfactory were done in the matter.

Mr. M. B. Adams said it would be wiser to concentrate the attention of the public on the practical rather than the artistic side of the question, because very little support would be received on anything which had to do with the artistic side of the matter; but with practical matters the ordinary man of the street would realise exactly what they wanted.

Mr. Hadfield said he hoped the Council of the Institute would press the matter forward. He thought it was desirable that surveyors should read between the lines of these by-laws. Those of them who lived in large Midland and Northern towns where there were insanitary areas, knew that there were many poor people who could not pay more than three shillings a week for rent, and houses for them could not be built, with such by-laws, at such a rent. At Sheffield the Local Authorities had met the architects well. The architects had not accomplished much, but still something had been done. The cost of cottage property for the very poor was becoming too great with the rents that the poor were able to pay, and this had an adverse effect on the question of the housing of the poor. That was an aspect of the question that should be pressed home on the authorities.

Mr. A. E. Sawday said architects were not a mercenary body; still they should look at the financial aspect of the matter. Some one had said that day that architects were supposed to be paid for copies of their plans; that was correct in the abstract, but not absolutely, for in consequence of these by-laws the cost of preparing plans was so considerable, that clients were driven away from the architect to the builder. An architect often found it necessary in cases of small alterations to make an actual survey of the whole of the property, and the cost was such that work was deflected to the builder. He felt the matter should be looked at from this point of view. It was especially desirable to get by-laws which would be applicable to the district in which a building was located. The difficulty was not so much in the large towns, but in the villages surrounding them. For instance, they had more difficulty in getting plans passed for buildings near Leicester than in Leicester itself.

The Chairman said, as to the discretion allowed to Local Authorities and the proposal to make it general, he thought there was a clause in the Sheffield by-laws allowing a certain discretion. The principle involved was that these districts had local self-government, but if that were so they ought to have some discretionary power. It must not be forgotten that the position of Surveyor to a Local Authority was often a very difficult one. A local surveyor once said to him: "I do not want to stop this; it is not at all to my interests to do so. What I take care of is that if I see anything contrary to the by-laws I just report it to my committee, and they can do what they like in the matter. I do that in order to safeguard myself against being called to account subsequently." That was the position, and surveyors often did not want to push things to the extreme. As a member of the Council of the Institute he would do his best to see that the matter did not rest.

Mr. Ridge, in reply, said that Local Authorities were most influenced by local architects. Architects should not be content with the old cry: Why does not the Council of the Institute do something in the matter? The Council of the Institute had had a great deal of negative abuse thrown at it in that way. But the Council was not the body to move in the matter; if anything could be done, it must be done by the members. They had heard about the poor in towns being driven and crowded together; but the poor were being driven out of the country because the man who might build dwellings in country districts, viz., the country squire, who had been building suitably and as he liked for many years, would not do so because of the interference due to a little village having taken urban powers to itself. The thing was grotesque. As to Mr. Henman's point about the Birmingham Council having to petition the Local Government Board, that was not the position of the ordinary Local Authority, who could make a by-law altering and repealing a previous by-law, though that by-law would not be enforced until the Local Government Board consented. Whatever the idea of the authorities might be, the Act of Parliament stated that the by-laws should be made by the Local Authorities.

The Chairman said a ratepayer who felt himself aggrieved by an infringement of the by-laws could take action against the Local Authority in the matter.

The discussion then terminated.

(*Continued on page 642.*)

Illustrations.

NEW SESSIONS HOUSE, OLD BAILEY: SELECTED DESIGN.

WE devote all our plates this week to the illustration of Mr. Mountford's design for the Old Bailey Sessions House, which, as already mentioned, has been selected after a long consideration of the designs sent in.

We have already made some comments on this and the other designs in the competition; and we may confine ourselves here to embodying some of the architect's own remarks in regard to his intentions in the design.

Mr. Mountford does not agree with the suggestion that it was a mistake to build another dome so near to St. Paul's; he had considered the point a good deal, and came to the conclusion that his dome, so very much smaller than St. Paul's, would help to give scale to the latter, and that the two would group well together.

We give the following remarks in the architect's own words:—

"It seemed to me essential that the four courts should be upon the upper floor, grouped round a spacious hall, and approached by a good staircase. It does not seem to me desirable that the rooms for 'witnesses wanted' should open direct from the courts. The other witnesses on the ground floor have very large rooms with all the necessary conveniences beneath, approached by private staircases.

The great difficulty was, of course, to provide easy access for the judges, the prisoners, and the general public to the courts without the possibility of any communication between the different classes. In my design the judges and the prisoners are kept quite separate from the public and each other, from the time they enter until they leave the building. At the same time, any of the judges' rooms, or any of the jury rooms, may be used with any of the courts, and the private staircase gives direct access to the courts from the grand jury rooms. The whole of the rooms for the law officers are in close proximity to the courts, and I paid considerable attention to the arrangement of the various mess-rooms and smoking-rooms on the top floor.

On the ground floor the great difficulty was to get sufficient light for the corridors and halls, but this we think has been surmounted; and inasmuch as Mr. Mountford tells us that his great aim was to make a plan which would be architectural and monumental without being merely utilitarian, we must add that in that aim we think he has succeeded.

The whole of the building will be warmed and ventilated by mechanical means, especially the courts and cells, in each of which the air ought to be entirely changed several times an hour.

The architect's estimate made in November last was 225,000*l.*, but the rise in prices since then may raise it to an appreciable extent, for the present moment.

THE ROYAL INSTITUTE OF BRITISH ARCHITECTS:

GENERAL ARCHITECTURAL CONGRESS.

(*Continued from page 641*).

Borough Engineers and Surveyors and Architecture.

The conference then proceeded to consider the following resolutions:—

"1. That in the interests of the art of architecture it is inexpedient that buildings of a municipal character be designed and supervised by engineers or surveyors having no architectural training and experience.

2. That as a matter of sound finance and in the interests of ratepayers, it is desirable that the duties of the Borough Engineer and Surveyor should not include work of an architectural character.

3. That it is detrimental to the interests of the architectural profession that buildings of a municipal character should be designed and erected by the Borough Engineer and Surveyor."

Mr. Charles Hadfield, of Sheffield, moved the first resolution. He said:—

"I do not think the resolution needs many words of mine to ensure it a sympathetic reception from a representative meeting of architects within these walls, to which cling memories of so many great architects, whose names and deeds are inscribed on the roll of honour of this Royal Institute. I need only cite *inter alia* Cockerell, Barry, Pennethorne, Butterfield, Scott, Street, and William Burges, that admirable, learned, and accomplished man.

To the older members of this Institute, who, like myself, have listened, as enthusiastic students, to their voices in the past, these names should be, at a time like the present (which many of us regard as one of crisis and difficulty), a call to action in all matters which concern the safeguarding and enhancement of the art of architecture—that art whose evidence, as all history teaches, will have no small weight in the judgment which posterity will form of the British Empire of the nineteenth century.

In moving this resolution it is far from my intention to utter any words of disparagement of the work of the civil engineer, or of the land surveyor, whose calling, like our own, demands the exercise of high skill and ability, and who are both engaged in work of the first importance to the common good, much of it, moreover, being work which calls for sympathy and co-operation with that which is peculiarly the province of the architect.

I need scarcely allude in this connexion to the laying-out of estates for building, and the formation and improvement of the arteries of our rapidly growing towns and cities, work on whose success the best efforts of the architect's craft are dependent. I would yield to no one in expressing a thorough appreciation of the inventiveness and skill evolved in the carrying-out of these public works, or of those great mechanical structures which will, perhaps, form the special distinction of the nineteenth-century engineer. But I fail to comprehend how the training of the civil or municipal engineer, or the land surveyor, or the many diverse duties which fall to his lot, can possibly qualify him to originate or to carry out architectural work of a character high enough to appeal to any man or woman of average culture, in an age when appreciation of good architecture is considered a part of a polite education. I define good architectural work to be that which is the peculiarly artistic outcome of skilful planning and sound construction. Both equally appertain to a plain building devoid of what are popularly styled 'architectural features,' and to a highly elaborated building, and I venture to submit that you cannot expect to get individuality, originality, and interesting design without a well-ordered plan. I think, too, you will also agree with me these qualifications cannot be attained by the aid of 'ghostly agency.' Beyond all question 'municipal buildings of a public character,' such as town halls, public baths and libraries, hospitals, police and fire-brigade stations, markets and industrial dwellings, demand the particular skill of the architect, whose especial province it should be to impress upon these works the marks of his intimate study of planning and design—and of that individuality which can never appertain to official architecture. With all our shortcomings this individuality has been recognised by foreign critics to be a distinctive quality of the best modern English architecture. I feel strongly that the system of conducting important building operations which has commended itself to the British public for the last fifty years, and which is now undoubtedly bidding for an increased sphere of influence, ought to be discountenanced as being at variance alike with common sense and public utility. It is a system which is not tolerated by enlightened public opinion on the Continent, and I am glad to learn, on the authority of the *Builder*, that the American Institute of Architects has been taking concerted action on this subject for some time past, and with success; for they have brought about a considerable reform in the direction of removing architectural work from the control of the Official Surveyor.

I feel that I am speaking for most of you in expressing my own sympathy with the wide extension of municipal energy, which is one of the great progressive forces of our day, and I think I may fairly say that such a sympathy tends to increase one's regret that the great changes which this municipal enterprise is bringing about should result in unconsciously lowering the standard of national architecture, instead of being the means of fostering it; and that this, too, should happen at a time when, thanks to the educational advances of recent years, a marked increase in skill and originality may be looked for.

Municipal and Governmental enterprise is more intelligently developed in this direction in France, Germany, and elsewhere on the Continent than it is at present in this country, adapting itself, as it does, to the æsthetic feelings of the people at large, and one is glad to note that already the representatives of more than one of our important municipalities are beginning to appreciate the fact. In the Middle Ages, from the time of the social movements of the thirteenth century, the spirit which is actuating our great municipalities to-day was the factor which called into being the best efforts of the architectural craftsman throughout Europe and made architecture *par excellence* the art of the people, and England from the thirteenth down to the eighteenth century was no exception in this respect, as many of our older towns and hamlets still bear evidence. I regret to say, however, that such evidence, at the inappreciative touch of the surveyor-architect, is becoming a vanishing quantity. The ruin worked in this respect, notably in the last twenty-five years, is known only to those of us who devote our holiday months to looking up the legacy left by a past which appreciated architecture at its true value; and it is against this all-round vulgarising and lowering of the standard of architecture to serve the needs of a grasping, sordid commercialism—never more in evidence than it is to-day—that I have ventured upon these few remarks."

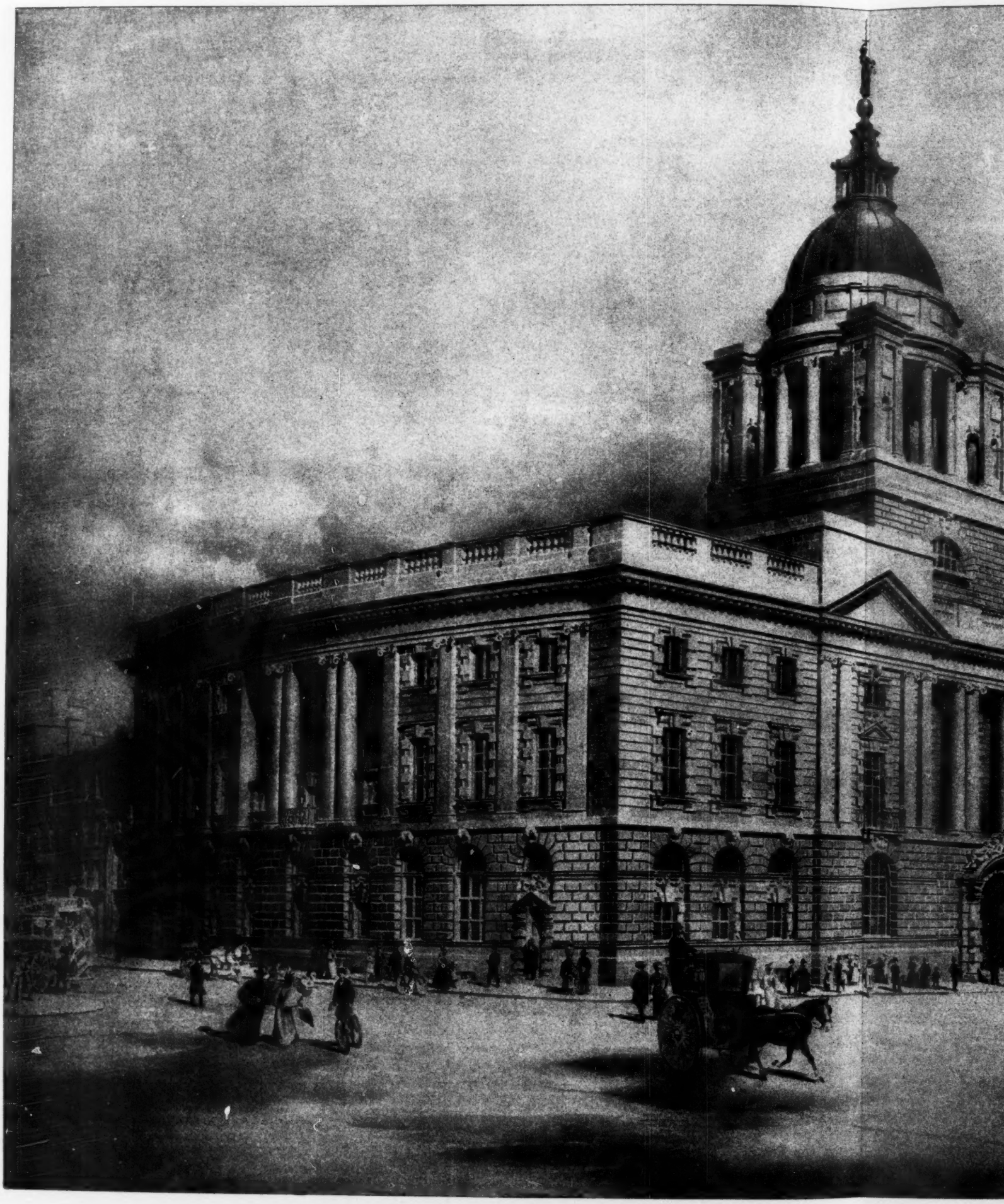
Mr. Mould formally seconded the resolution.

Mr. W. J. Locke then read the following communication on the subject from Mr. William Henman, of Birmingham:—

"Although I thoroughly appreciate the intentions of Mr. Charles Hadfield and Mr. A. E. Sawday in directing the attention of the Institute to the subject of the employment of Engineers and Surveyors to Local Authorities on works of architectural character (as I did at the Congress meeting held two years since at Birmingham), I can but regret that greater care was not exercised in the wording of the resolutions, for they certainly do not exactly explain facts as they stand, or the objects we, as architects, should aim at; and consequently our intentions and aims are liable to be misunderstood and may be frustrated should the resolutions be adopted in their present form. In the first place, it is unreasonable that we should hold that 'it is inexpedient that buildings of a municipal character be designed and erected by engineers or surveyors.' I am aware that the resolution goes on to say 'having no architectural training,' but is that necessary for the erection of a public urinal or dust destructor? and yet those are buildings of a 'municipal character.' Again, is it becoming on the part of the Institute of British Architects to dictate what work should be entrusted to engineers and surveyors? Might not independent engineers and surveyors justly resent such interference with what they may consider their legitimate work—work which I think all of us will agree might just as well be carried out without the necessity for previously undergoing 'architectural training'? In the second and third resolutions I also submit that the term 'Borough Engineer and Surveyor' is now antiquated. We have City Engineers and Surveyors and Engineers and Surveyors to District Councils, but the term Borough is practically obsolete in connexion with the appointment of engineers and surveyors. Without further criticising the wording of the resolutions, I beg to suggest the following, which in my humble opinion fairly embraces the three which have been printed, and reasonably conveys the views of the architectural profession on the subject, viz.:—

'That it is detrimental to the cause of architecture as an art, to the interests of the rate-paying public, as a matter of sound finance, and to the architectural profession as a specially-trained body, for salaried Engineers or Surveyors to Local Authorities to be employed in the design and superintendence of buildings requiring architectural education and experience.'

I may further point out that the above wording also embraces a point of great importance to the architectural profession, which is not included within the terms of the three resolutions as printed; that is, the evil arising from salaried engineers and surveyors undertaking private work of architectural character, whereby, in consequence of their official position, they become unduly favoured competitors with trained members of the architectural profession. I regret that my engagements have prevented me being present at the discussion of this subject, and that circumstances have interfered with an exchange of views between Messrs. Hadfield, Sawday, and myself. I feel



OLD BAILEY SESSIONS HOUSE COMPETITION: SELECTED DESIGN.—Mr. E

EXTERIOR PERSPECTIVE.

HR-PHOTO. SPRAGUE & Co. LTD. 4 & 5 EAST HARDING STREET, FETTER LANE, E.C.

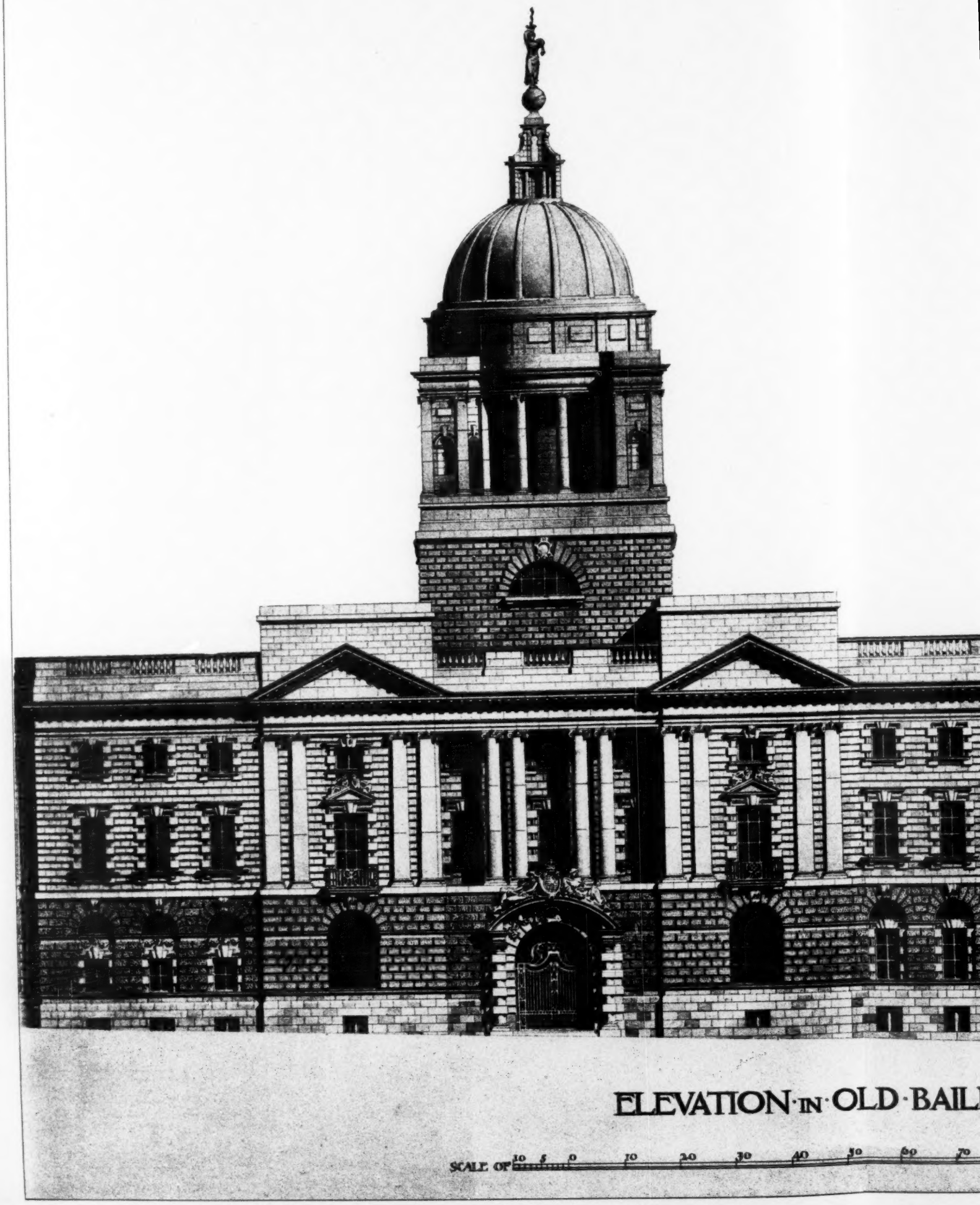
GN.—Mr. E. W. Mountford, F.R.I.B.A., Architect.

E.

INK-PHOTO. SPRAGUE & Co. Ltd. 4 & 5 EAST HARDING STREET FETTER LANE E.C.

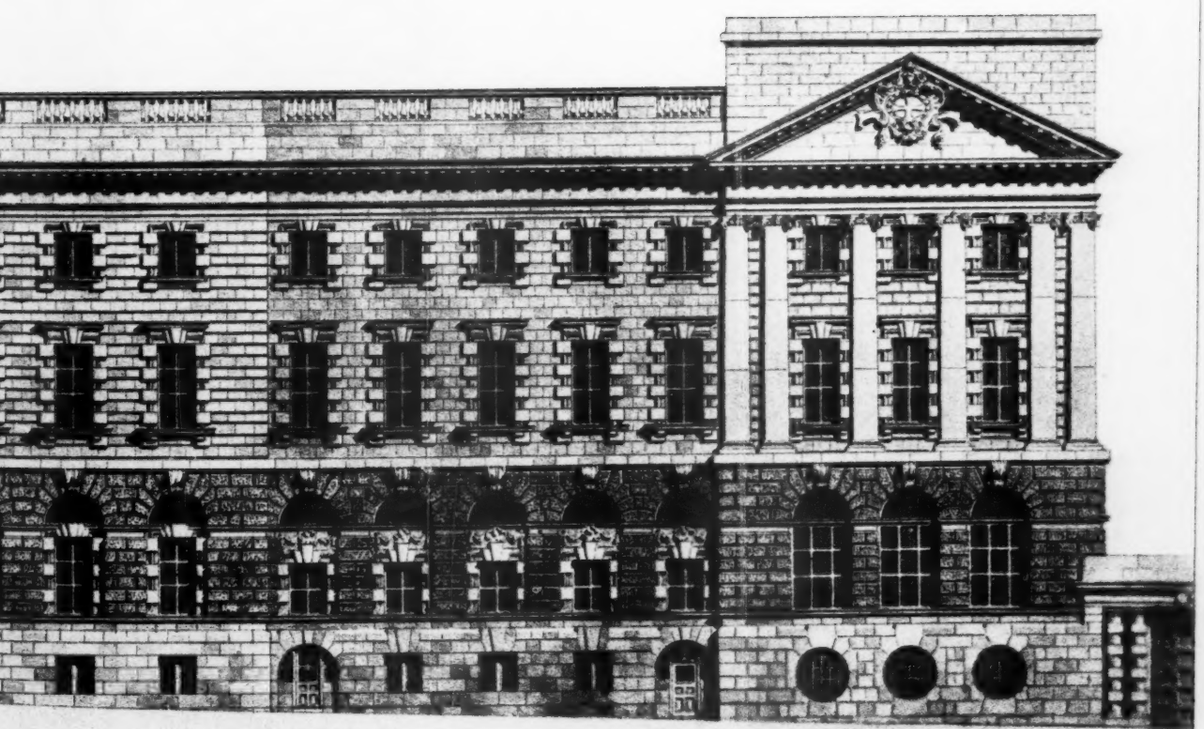
OLD BAILEY SESSIONS HOUSE COMPETITION: SELECTED DESIGN.—Mr. E. W. Mountford, F.R.I.B.A., Architect.

INTERIOR PERSPECTIVE OF HALL.



OLD BAILEY SESSIONS HOUSE COMPETITION. SELECTED DESIGN.—M

PRINCIPAL ELEVATION.



BAILEY

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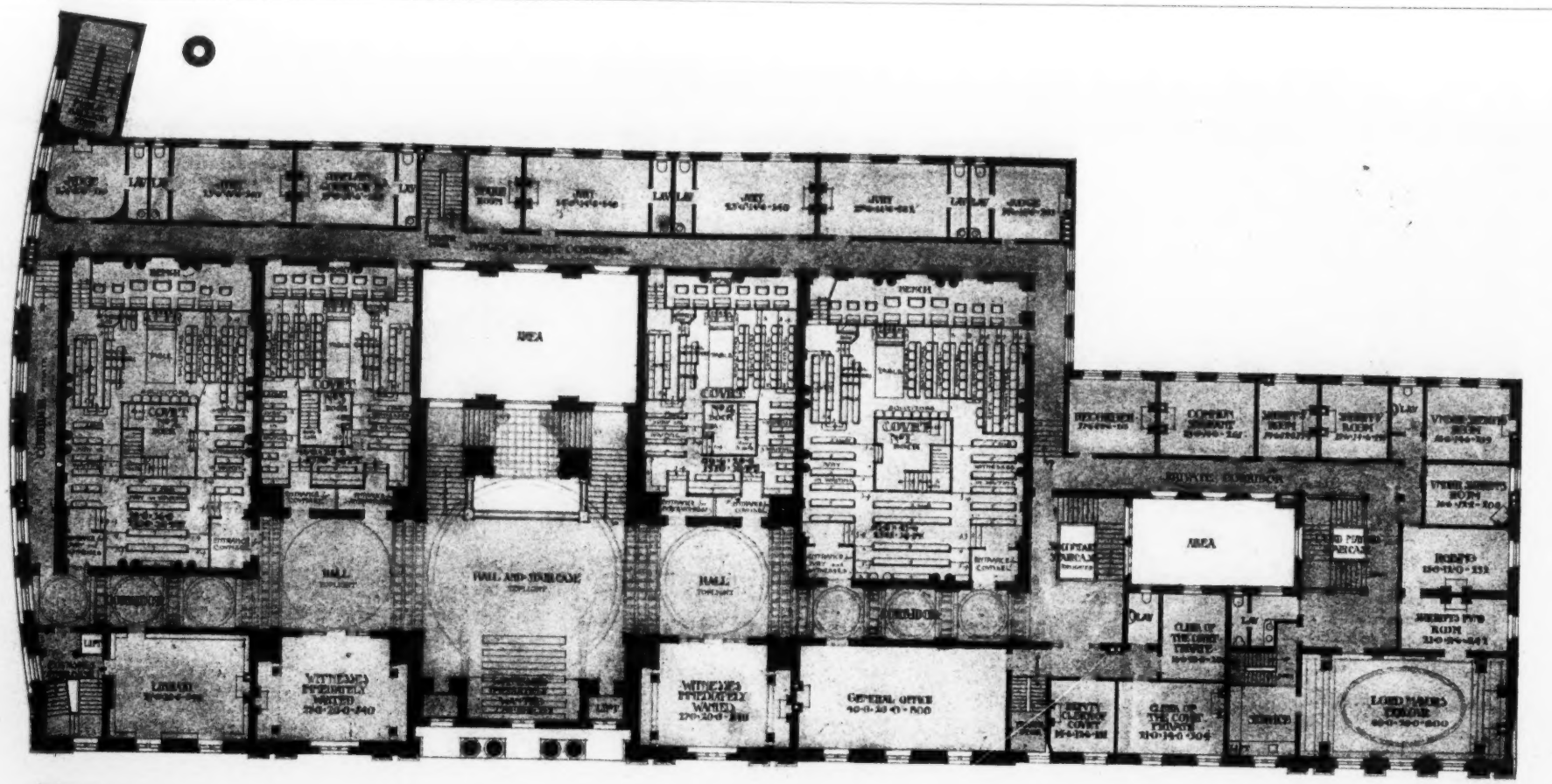
INK-PHOTO SPRAGUE & Co. LTD. 4 & 5 EAST HARDING STREET FETTER LANE E.C.

ESIGN.—Mr. E. W Mountford, F.R.I.B.A., Architect

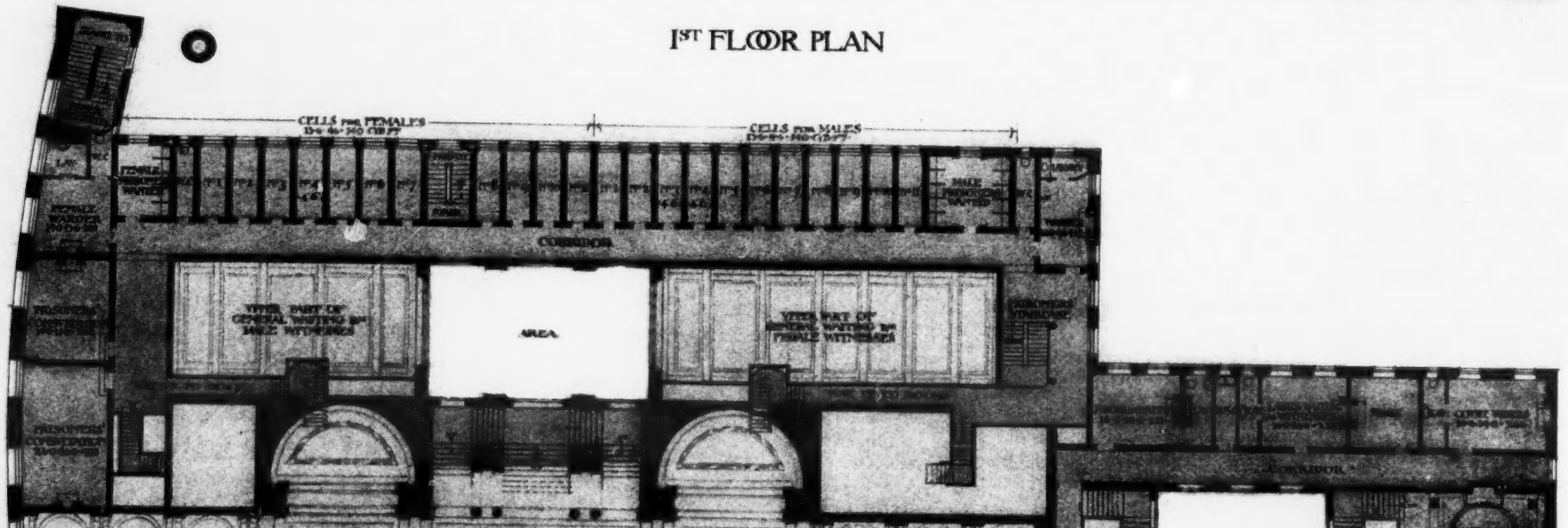
TION.

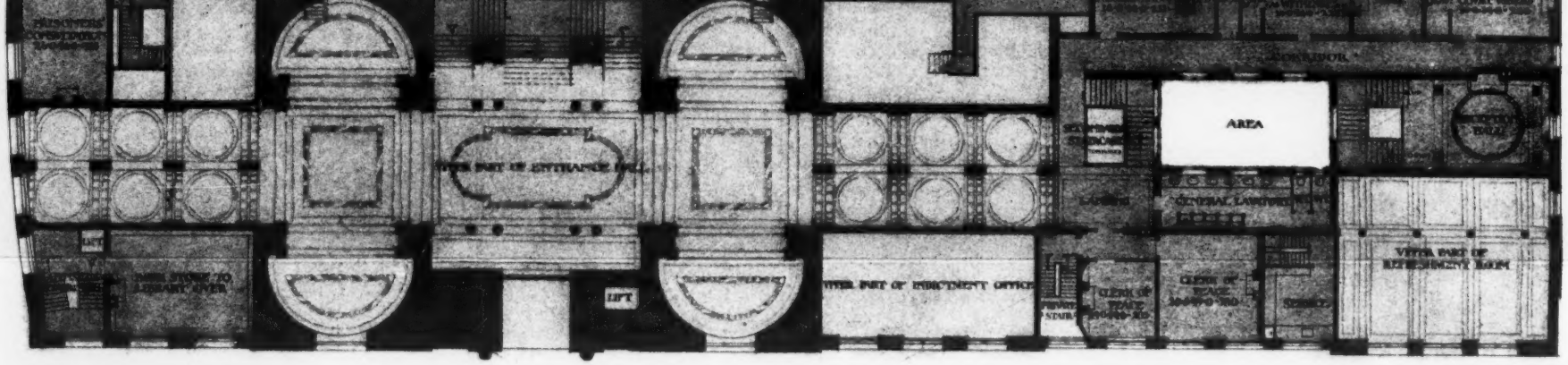
OLD BAILEY SESSIONS HOUSE COMPETITION.

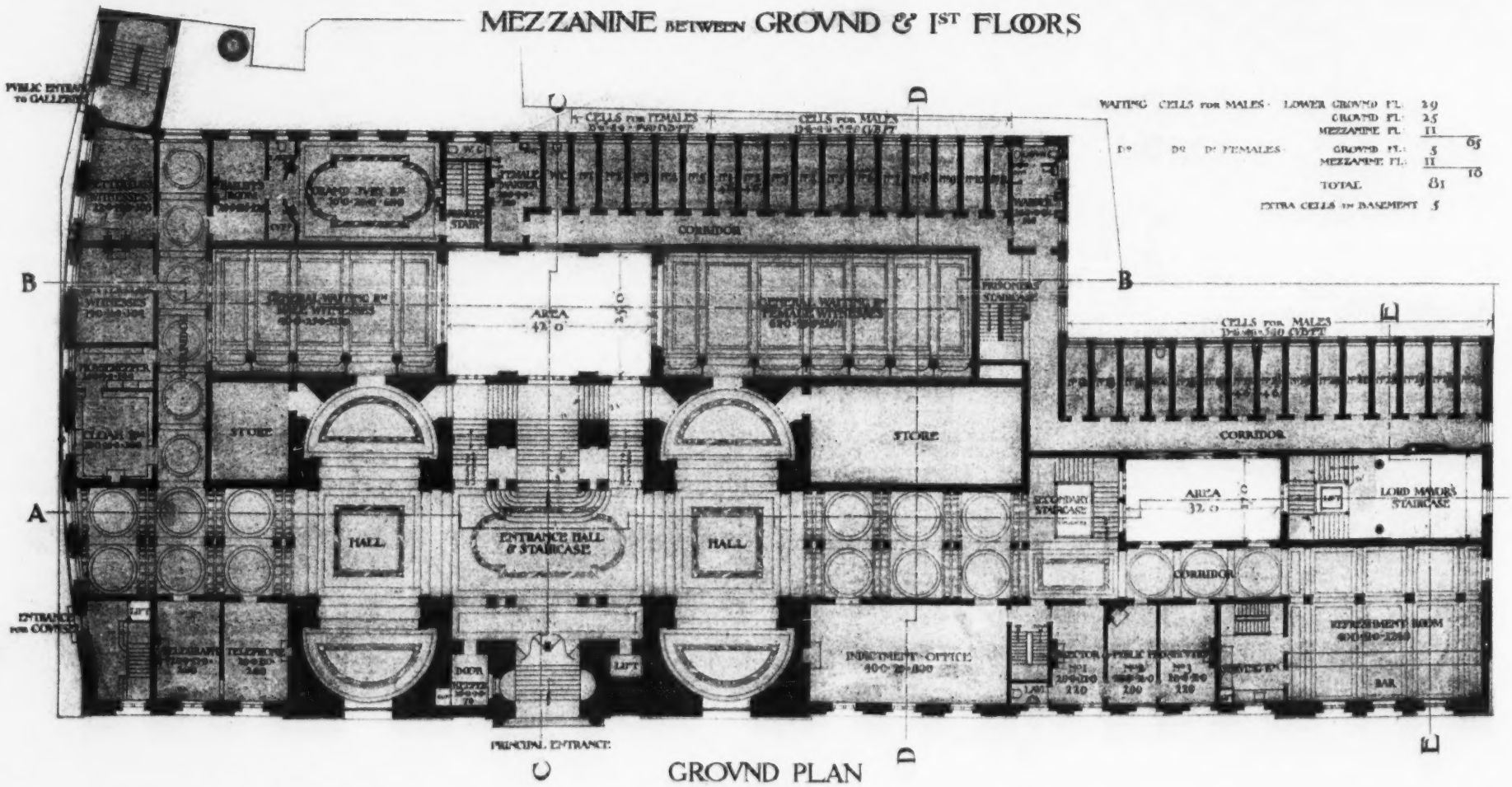
PLANS OF GROUND, MEZZANINE, AND FIRST FLOORS.



1ST FLOOR PLAN







GROUND PLAN

SCALE OF FEET.

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OLD BAILEY SESSIONS HOUSE COMPETITION: SELECTED DESIGN.—MR. E. W. MOUNTFORD, F.R.I.B.A., ARCHITECT.

PLANS OF GROUND, MEZZANINE, AND FIRST FLOORS.

convinced we all hold the same views upon the subject in the abstract; we realise the evils resulting from the employment of salaried engineers and surveyors for work requiring architectural learning and skill; consequently, the only difference between us is, in what words shall the subject-matter be placed on record before the public? and, with all due deference to those who framed the three resolutions, I hold that the one I have presumed to put forward not only states the facts correctly, but expresses clearly the opinion of those in the architectural profession who have given thought to the matter, and I appeal to the movers of the resolutions to accept the revised wording. In addition, I express the hope that the Institute will not permit the matter to rest with this pious expression of opinion, but that a committee may be appointed to investigate and obtain particulars respecting the numerous works of architectural character with which salaried engineers and surveyors have during the last ten to twenty years been entrusted, their cost compared to those of similar character designed by trained architects, and their relative architectural characteristics, for I feel sure that a committee, working on the same business lines as the one which was appointed to consider the Building By-laws, would do much to enlighten the public upon the subject and materially help to put a stop to an evil practice."

Mr. C. H. Brodie said the position was a little extraordinary, but he should be glad to second Mr. Henman's motion because he felt it was very much better than the three printed resolutions. At the same time, he should be sorry to cast any slur on the framers of the three resolutions. If the three resolutions could be withdrawn and Mr. Henman's substituted, he thought it would clear the ground.

Mr. Lewis Angell said he thought they must all agree with resolution No. 1, which was complete and sufficient in itself. Speaking as a Borough Engineer of many years standing, he thought it desirable that engineers should not carry out architectural work unless they had had architectural training. The first resolution went quite as far as Mr. Henman's amendment, and was much simpler. If he should desire to amend it, it would be in order to require that architects holding the position of Borough Engineer should not carry out engineering work without engineering training and experience. It was no uncommon thing in provincial appointments for a local architect to compete for the appointment of Borough Engineer, and he knew of local architects, who had been appointed Borough Engineers, who had undertaken such work as laying out estates, the construction of drainage, the result of which had been a conspicuous failure, simply because such work did not come within an architect's province. If it were necessary to express any opinion at all, why should they go beyond resolution No. 1? No. 2 was a conundrum, and the third was a trades-union proposition.

Mr. H. H. Statham said he wished to oppose Mr. Henman's amendment, as it included some of the proposals belonging to the second and third resolutions, which proposals he thought it desirable to reject. It seemed to him that there was some misunderstanding and some not quite fortunate wording in regard to the first resolution. He thought the real object of the first resolution was a purely artistic one, and as they should bear in mind, it was intended to suggest that architecture should not be put into the hands of the municipal official. He thought that was most important because it would generally be found that it was not architects of original genius who tried for these official positions, but practical men with a good deal of surveying knowledge. If a man of original genius did ever get into such a position, he almost inevitably had his genius weakened; that was to say, he got entirely wrapped up in routine work. He heard that most strongly put by one of the leading Academy architects, Mr. T. G. Jackson. A man's genius suffered in such an appointment. Examples of this could be seen in the Post Office buildings, which were by no means the worst examples. As was known, the Post Office buildings all over the country were designed in the Office of Works, and notwithstanding the fact that there was a very able architect in the Office of Works, the stamp of officialism was all over those buildings; whereas had the work of designing and erecting those buildings been given to a leading architect in each town, each building would have been an original work of architecture, with perhaps some local character about it. Instead of that, they were all designed in the official mould, and in every large town in the country there was one of these machine-made buildings, which, though not without some claim to respectability, were commonplace and uninteresting architecture. That was the sort of thing they wanted to avoid. It seemed to him that if the first resolution stated: "Should not be designed and erected by engineers and surveyors holding official appointments," that would put more correctly what architects wanted, and in order to meet another objection they might insert the word "important" before "buildings of a municipal character." He thought that some alteration of this kind would express better what they had in their minds. He distinctly opposed Mr. Henman's amendment because it seemed to introduce a trades-union element, and they did not want to be making a protest in favour of their own pockets, though they did want to make a protest in the best interest of architectural art.

Mr. Lacy W. Ridge said Mr. Henman's proposal was a good one for getting together the three resolutions in one, but the amendment would have to be proposed by some one in person, and he did not feel able to do so.

The Chairman said that he must rule that inasmuch as the amendment by Mr. Henman had not been proposed they must proceed to discuss resolution No. 1.

Mr. H. Hardwicke Langston said he was not in sympathy with any of the resolutions. The first resolution was a contradiction in itself, for engineers and surveyors who designed and carried out buildings of a municipal character must clearly have the ability to do so, and whether that ability were called the result of architectural training or not was really a matter of trifling importance. As to the intention and spirit of the resolution, if it meant anything it meant and was intended to convey that engineers and surveyors were to be written down as men incompetent and unfit to be entrusted with designing and carrying out buildings, which buildings were to be paid for out of a ratepayer's purse. Was it their place to lay down such an axiom as that? But the resolution was far-reaching, including all engineers and surveyors possessing the indefinite, doubtful qualification which, for want of a better term, was called architectural training. Before they could lay down an axiom of such severity it was necessary to prove that by a so-called architectural training there was conferred upon a man that fulness of discernment and power of mind to enable him to cope with the problem proposed; but there could be no such proof, and without an inborn and intuitive love for the art of architecture all the architectural training one could cram into a life time, was of little avail. That being so, what was there left of the resolution to commend itself to them? Let them suppose a case where a man with an inborn and intuitive love of architecture, but technically trained and taught, found himself, without employment in the art he loved, driven to accept a Borough Surveyorship [a good start!] Suppose he were driven to that [Impossible!] Was the fact of the acceptance of that appointment to deprive him of making his position a stepping-stone into the practice of an artist? If so, what became of the liberty of the subject? He ventured to say that patriotism and necessity were not to be stopped in their progress by such a punctilious recommendation.

Mr. Maurice B. Adams said that Mr. Statham had made some remarks with which he was in agreement, and he suggested that Mr. Statham should move an amendment to resolution No. 1 embodying those remarks.

Mr. Statham said he had already written down the following amendment, viz.:—"That in the interests of architecture it is inexpedient that important buildings of a municipal character be designed and erected by the Official Engineer or Surveyor to the Municipality."

Mr. Adams seconded.

Mr. Hadfield said that if the word "important" were omitted he should cordially support the suggestion. It took a man a lifetime to make a good plan of an important Building, as they realised in that important building which they had just visited, viz., the new cathedral at Westminster.

Mr. Statham said he was afraid he could not agree to omit the word. It was put in to answer a perfectly logical objection that by the original motion the City or Borough Engineer would be prevented carrying out such a work as a urinal. The word "important" showed that they meant buildings of architectural importance.

Mr. Adams concurred. Buildings were put up by engineers and surveyors in various parts of the country by men who were often little more than road-surveyors. In an important town some sixty miles from London a large Town Hall had recently been very considerably altered by the official surveyor, and it now stood a monument of ugliness. Surely those of them who had any love for the art of architecture should protest. There was no endeavour on the part of the architects to get "a cut in" against the Borough or Town Surveyor, or the official architect, but if they had any sense of beauty of architecture, surely it was their business to exercise their influence, which was not very great, to bring about the desired change.

Mr. Angell said he did not suppose the amendment, if agreed to, would have any desired effect whatever, for the Local Authorities of the country would do what they pleased; but it would have the effect of creating a feeling on the part of the Borough Engineers of the country against the architects. In his opinion resolution No. 1 as an expression of opinion would be sufficient. By the amendment Borough Engineers who were members of the Institute would be excluded from doing important architectural work; it was an attack on every Borough Surveyor, whatever his qualifications.

Mr. Brodie suggested that resolution No. 1 should be put with the addition of the word "important" before "buildings of municipal character."

Mr. Angell said that would open up a discussion as to what was important. He had been a Borough Engineer for forty years, and during that time he had carried out town halls, fire stations, lunatic asylums, and other large works—probably, owing to his long service, more municipal buildings than any other engineer in the country. There were several members of the Institute who held similar appointments, and for the sake of peace, and in order not to give offence to a large and important body of men in the country, it would be wise not to throw down the gauntlet.

Mr. Ridge said he was not agreed even with resolution number one. He would like to remind the meeting that it was not a meeting of the Institute, but a meeting of the Conference, and he cared very little whether the resolution or amendment were passed or not, though he should be very sorry if the Institute passed any such resolution. It was not a resolution which they as a profession ought to pass at all, and he was sorry to see the resolutions in print as part of the Conference programme. It would be useless to attempt to interfere with the action and the position of the Municipal Engineer; those officials varied very much indeed. An outsider reading the resolutions would think it very bad taste on their part to agree to such resolutions, and, what was more, he did not think that any attention would be given to the resolutions even if they were passed. He quite agreed with Mr. Statham about machine-made architecture, and the illustration about the post-office buildings was a beautiful illustration of machine-made architecture; but the amendment would not be in good taste in coming from a body of architects, and he, therefore, ventured to move the previous question.

Mr. E. W. Hudson seconded as an Associate of the Institute. The resolution, if passed would, be a dead letter. He could not see, while there were members of the Institute who were Borough Engineers and Surveyors, that any good would be done by curtailing their powers and works. The profession seemed to be so dovetailed in with other matters, that it would be as pertinent for Civil and Sanitary Engineers to say that the architect should have nothing to do with the drainage of buildings, and that the engineer should be called in for the purpose. In spite of all their love for the art they could not forget that it was a profession also.

Mr. Langston, in supporting the previous question, said the matter was of such importance that he would like the members of the profession to be canvassed on the subject.

Mr. Ralph Nevill said they must all feel that it was undesirable for men without architectural training to meddle in architectural work, but the matter was a very difficult one to deal with, and it was difficult to decide what "im-

portant" meant; and he felt that, should they pass these resolutions, they would provoke an unpleasant *tu quoque*, for there was no doubt that some architects were guilty of the very worst buildings possible; there was no borough in England where one could not point to some very bad works by architects, and on the whole, in spite of the great good which might result in passing these resolutions, he thought it would be better to let the matter alone. On explanation Mr. Nevill subsequently voted against Mr. Ridge's motion.

Mr. J. D. Mould said that even those opposed to the resolutions seemed to be agreed as to the inadvisability of buildings of a municipal character being designed and erected by engineers and surveyors, yet in order not to awaken opposition in other quarters, it was thought better not to press the matter. That was a spirit which might prevent them moving in almost any direction. The resolution was a true statement of fact, and if there were a possibility of its doing good, it should be passed. He was in perfect agreement with the terms of the resolution. It was to the honour of the Institute that it had always approached these questions, not as a trades-union body, but in the interests of architecture. It was not intended to slight the municipal engineers—men of great qualifications, who had such diverse duties to attend to, and who had a very strong association—*i.e.*, the Association of Municipal and County Engineers. The Municipal Engineers Association could pass a similar resolution against architects if they liked, to the effect that architects should be debarred from carrying out engineering work, and if they did he would be perfectly ready to agree to it. He thought it would be well for the Institute to throw aside any fear of awakening animosities, and, with perfect self-respect, in a proper spirit of protection, and with an eye to the good of the general body, to pass the resolutions.

Mr. Sawday said it was only fair to Mr. Hadfield and himself to state that they were not responsible for the inception or printing of the resolution. They had been requested by the Conference sub-committee to bring the matter before the Congress.

Mr. Nevill said it appeared from the programme that Messrs. Hadfield and Sawday had brought the matter forward on their own authority.

Mr. Sawday said he was requested by Mr. Joseph Smith, President of the Sheffield Society of Architects, to move the second resolution on behalf of the Congress Committee.

Mr. Hadfield said there was a strong feeling in Sheffield that something should be done in the matter, but he was in no way responsible for the resolutions.

Mr. Locke said that when the Congress Committee were selecting subjects for discussion they sent round to all the allied societies asking them to suggest subjects. The subject of the employment of the Borough Engineer or Surveyor was put forward by several societies, and the Congress Committee resolved that the subject should be discussed, and they put the matter in the hands of a small sub-committee, of which Mr. Joseph Smith, of Sheffield, was the leading member, and Messrs. Hadfield and Sawday were asked to bring the resolutions forward.

The Chairman, in putting the previous question, said that no one could blame Messrs. Sawday and Hadfield for their action in the matter.

The motion having been put and declared lost,

Mr. Statham said that another reason why he felt that his resolution should be agreed to was that architectural work for a municipality would be thrown open to competition, with the chance of getting the best result. That was done in France, where there were a number of official architects connected with all sorts of departments, but who were never entrusted with the designs for great buildings. The thing was thrown open to competition in order to get the best building.

Mr. Hadfield said he desired to adopt Mr. Statham's wording.

The Chairman then put the amendment to the meeting, when there voted fourteen for it, and five against. It was then put as a substantive motion and carried.

Mr. Langston asked if the votes of nineteen people would settle such a matter, and as a protest against that he should leave the meeting.

Mr. A. Sawday, of Leicester, then moved the second resolution, which, he said, dealt with the same class as No. 1 viz., those who had had no special architectural training. A letter which appeared in the *Builder* for June 9 was evidently written under a misconception of the spirit of the resolutions. The resolutions were not aimed at those who, like the writer of that letter, evidently possessed special architectural knowledge, but those engineers and surveyors who could and would not themselves claim such knowledge. Probably nine out of ten Borough Engineers and Surveyors would not claim to have special architectural knowledge. Most of those present would probably differ from the writer of that letter when he said that a Borough Engineer had included in his training a study of architecture as deep in its practical form as any architect. Most engineers possessed and should possess a certain amount of architectural knowledge, just as an architect should possess a knowledge of strength of materials, strains, &c., necessary for him safely to carry through his work. Nor was the resolution aimed at the carrying-out by engineers of that class of municipal buildings which might be regarded as closely identified with sanitary and other engineering work, viz., destructors, electric light installation, gasworks, and other kindred works; but it referred to those works of a purely architectural character, requiring that amount of architectural and technical knowledge which an architect should possess to a greater extent than a man whose time was chiefly devoted to works of an altogether different class, and whose thoughts were directed in a different channel. The interests of the ratepayers required that the work done by the municipality should fully serve the purpose intended; should be thoroughly well planned, constructed, and superintended; and, what would perhaps be regarded by them as the chief matter, carried out at a minimum of cost; and it was suggested by the resolution that these results were best obtained by the employment of a trained and qualified architect rather than by a Borough Engineer. The first two points were best illustrated by the experience of the municipality which he had the honour to represent. The Municipality of Leicester possessed a thoroughly capable Borough Engineer, and yet a few years ago it was decided to entrust all purely architectural works to independent architects, perhaps prompted by the fact that the town possessed an exceedingly capable body of architects, a fact which he might state without any egotism, since, as a member of the Leicester Council, he had been debarred from taking a share of the work which had fallen to his professional brethren. A great amount of work had been, or was being, carried out, viz., fever hospital, asylum buildings, technical and art schools, cemetery with chapels and lodges, crematorium, public baths and free libraries, gas offices, market buildings, industrial dwellings, &c.—all distinct from and having no relation to the work of the Borough Engineer, but work which in many municipalities was undertaken by the engineer. All this had been attended with the most satisfactory results so far as the ratepayers were concerned. Concurrently with all this a vast amount of sanitary and engineering work had been carried out by the Borough Engineer and his staff, viz., new main sewage scheme and pumping stations; laying out sewage farm of 1,400 acres; bridges; refuse destructors, &c. Their Borough Surveyor, able as he undoubtedly was, would not be able, with this and other work appertaining to the office on his hands, to give to those purely architectural works the personal attention they deserved. If carried out by the Borough Engineer's Department, the work would necessarily devolve upon a subordinate with, generally speaking, unsatisfactory results. Even the time he would be able to give to such work would be time which ought to be given to matters more immediately demanding his attention, and which, in consequence, would devolve on a subordinate, and both branches of the work would suffer for the lack of that personal attention which both demanded. All architects, it was true, were not worthy, and some were not as scrupulous as they might be, but such cases were few and far between. The 5 per cent. saved, when the work was carried out by an official, was not a saving in reality—the small margin of profit made by the architect and the payments to subordinates equalised that account. Again, Borough Engineers approached architectural work from the standpoint from which they regarded their own, and not always with regard for the best and most economical use of materials. He knew a case where a building erected under the supervision of an engineer had the walls 30 per cent. to 50 per cent. thicker than would have been regarded as necessary by an architect after having due and proper regard for safety of construction; the 5 per cent. commission was saved, but it was quite accounted for by the extra cost of building. Demands on municipalities increased from year to year; works carried out by them were increasing in number and importance, and the demands on the time of their officers correspondingly increasing; and for those reasons he thought that works requiring the architectural knowledge, which the architect should possess, should be carried out by him in the truest interests of the public. There was room for architect and engineer to work side by side, aiding and assisting each other, neither jealous of the other, but each attending to his proper functions and the work to which each had been specially trained.

Mr. Statham said they had all been pleased to hear the views of Mr. Sawday, but he did not think that as architects they had anything to do with considering municipal finance or the interests of the ratepayers. He felt that the resolution that had been passed was in the right direction, viz., the interests of architecture; but the second resolution was going into things which did not concern the Architectural Congress. In passing the first resolution they had done all that they could for their cause, and he therefore moved that the resolution before them be not considered.

Mr. Angell, in seconding, asked what was the use of piling up the agony with three resolutions? The gauntlet was being once more thrown down in the suggestion made in the resolution as to sound finance. The same suggestion might be made by Borough Engineers and Surveyors about architects. Having passed the first resolution it was unnecessary to do more.

The Chairman then put the amendment to the meeting, and it was agreed to.

In reference to the third resolution, Mr. Hadfield said he was sorry that Mr. Joseph Smith, the President of the Sheffield Society, was not present. He believed that Mr. Smith's strong feeling was that the third resolution was quite unnecessary, and he, the speaker, ventured to take the responsibility of saying that there was no necessity for it at all.

It was then agreed that the resolution be withdrawn.

A vote of thanks to the Chairman having been agreed to, the meeting terminated.

Friday's Visits.

At three in the afternoon a large number of members of the Congress met at Messrs. Holloway's works in Belvedere-road, Westminster, for what proved a most interesting visit of inspection. The works occupy a site of nearly 400 ft. in length between Belvedere-road and the river, with a river frontage of about 150 ft. A considerable portion of the yard next the river is, however, an artificially built wharf over the old river bank, for which the proprietors, after lengthy negotiations, obtained the sanction of the Thames Conservancy. By this means barges can be loaded and unloaded at almost all times of the tide, and a tramway up one side of the yard connects the wharf with the street entrance. The visitors were first taken to the engine and dynamo house, where they saw the working portion of a triple-expansion engine of 240 horse-power, occupying a remarkably small space, and driving a large dynamo which furnishes the power to the whole of the works. The great advantage of this method of driving the machinery is, of course, that the power can be placed in any convenient situation in the yard without the necessity of having the engine close to the shops, which the ordinary strap-driving from a steam-engine implies, and a single engine can supply it all, while with direct steam-power two or three engines would be required in different positions for the different departments, involving increased cost in superintendence, besides increased risk of fire. The party next visited the mason's machinery close to the river wharf, and saw the frame-saws and rip-saw, the machine for running mouldings, and the electric gantry crane which travels overhead. Behind this was the mason's shed for manual work. In regard to the apparent deficiency of light here, Mr. Holloway remarked that experience had shown that with constant work on stone mostly of a light

colour, too much direct light was injurious to the sight of the workers, the stone with a direct light upon it giving too much glare; a covered shed with the direct sunlight cut off gave just the light that was required. On the way to the joinery shops, next to the Belvedere-road end, the party paused to see the very compact punching and shearing press cut bits off a ⅝ in. flat steel bar as if it had been cheese; the shears are really on the same principle as a pair of scissors of which one blade is fixed; an oblique edge, turned downward, working past a horizontal edge turned upward. The party then moved into the ground floor carpenters' shop, which is the most interesting part of the establishment, owing to the variety of machine work carried on here. Mr. Holloway explained the progressive method in which the wood was treated here, being brought in at one end of the shop in logs, sawn up into thicknesses in the double frame saw at that end of the shop, then passed through the various stages of planing machines, mortising and tenoning machines, &c., till at the further end it was turned out ready for putting together, and sent in the lift up to the joiners' finishing shop. Mr. Holloway also explained that the detail drawings furnished for joiner's work were all dealt with in the shop above, and the sizes and shaping of all pieces required were set out on rods (long boards rather), which were sent down to the machine-room; the men in charge of the machine tools had then merely to shape or mortise the wood in accordance with the indications marked on the rods. In regard to the rate of work, it was mentioned that one of the mortising machines could do as much work in a day as sixty men could do with manual labour. Before the party left they were hospitably entertained to a tea set out in one of the offices.

Brakes had been provided to take the visitors up to Messrs. Powell's at Whitefriars, where they were met with an invitation to a second tea (a courteously intended hospitality which was unfortunately necessarily thrown away), and were conducted through the show-rooms first, and afterwards to the different workshops. As it was not one of the glass-blowing days, that most interesting and picturesque chapter in the artistic treatment of glass was not illustrated on a large scale, though a small demonstration was kindly given for the benefit of the party.

Annual Dinner.

A dinner, the annual dinner of the Royal Institute of British Architects, was held in the evening, at the Whitehall Rooms, Hotel Métropole. Mr. William Emerson, the President, was in the chair, and among those present were the Duke of Cambridge; the Archbishop of Canterbury; the Bishop of London; the Lord Mayor; Lord Claude Hamilton; Lord Alverstone, Master of the Rolls; Lord Strathcona; Lord Welby; Sir Wm. Treloar; Sir John Taylor; Sir E. Maude Thompson, K.C.B.; Sir B. Stone, Sir H. Trueman Wood; Sir Thomas Drew; Sir H. Howarth; Sir W. B. Richmond, R.A.; Sir L. Alma Tadema; Sir Wyke Bayliss; Col. Fitz-George, C.B.; Mr. T. W. Russell, M.P.; Mr. J. Macvicar Anderson; Mr. J. Fletcher Moulton, Q.C., M.P.; Lieut.-General Moncrieff; Professor T. Roger Smith; Mr. George Frampton; Professor John Perry, President of the Institute of Electrical Engineers; Mr. Joseph Smith, President of the Sheffield Society; Mr. Arthur Cates; Dr. L. Unwin Young; Professor Rücker; Professor F. S. Neckelmann, Hon. Corresponding Member; Mr. John Slater, Vice-President; Mr. R. H. Boyce, C.B.; Mr. Thomas M. Cutler; Mr. J. J. Burnett, A.R.S.A.; Professor Capper; Mr. E. W. Mountford; Mr. H. H. Statham; Mr. Carby Hall, President of the Leeds Society; Mr. Alfred Darbyshire, F.S.A.; Mr. G. A. Hall: Mr. F. T. Baggallay; Mr. J. W. Locke, Secretary; Mr. Selwyn Image; Mr. Alex. Graham, F.S.A.; Mr. A. de Bock Porter, C.B.; Mr. W. D. Caröe, F.S.A.; the Rev. Canon Benham; Mr. F. G. Hilton Price, Director of the Society of Antiquaries; Mr. A. Hessell Tiltman; Mr. G. Hornblower; Mr. J. Neale, F.S.A.; Mr. E. A. Gruning; Mr. W. H. Seth-Smith, President, Architectural Association; Mr. G. H. Fellowes-Prynne; the Cavaliere Giampietri; Mr. E. T. Hall; Mr. A. Beveridge; Mr. Val C. Prinsep, R.A.; Professor F. M. Simpson; Mr. Beresford Pite; Mr. John Belcher, A.R.A.; Mr. G. F. Bodley, A.R.A.; Mr. T. H. Watson; Mr. C. King, President of the Devon and Exeter Society; Mr. H. J. Blanc, R.S.A.; Professor R. Elsey Smith; Mr. T. Blashill; Mr. J. M. Brydon; Mr. W. H. Dickinson, Chairman of the London County Council; Mr. A. W. Soames, M.P.; Mr. A. M. Torrance, Vice-Chairman of the London County Council; Mr. Wm. Glover, President of the Northern Architectural Association; Mr. S. Perkins Pick, President of the Leicester Society; and Mr. H. O. Jenkyn.

The President, in proposing "The Queen," said that one of the first acts of her Majesty, after her accession in 1837, was to grant her Royal Charter to this Institute. The Prince Consort took very great interest in its inception, and occupied the chair at a number of their meetings.

"The Prince of Wales and the Royal Family" was the next toast given by the President.

The Duke of Cambridge, replying, congratulated the Institute upon its success.

Mr. J. Macvicar Anderson proposed "The Church and State."

The Archbishop of Canterbury, in reply, said the profession to which they belonged, that of the art of architecture, was one of the very highest value certainly to the Church, and, in quite a different sense, he might say, to the State. Certainly to the Church, because the Church derived very great benefit from the kindling of the highest emotions which art such as that of architecture was capable of at times of stirring within the soul. He could give two illustrations of the feelings with which men regarded the art of architecture. He remembered that once, as he was looking at the height and dignity of a cathedral, a very religious and good man remarked to him, "The cathedral is religion," and he meant what he said. He felt through and through that the very stones of the building, the beauty of it, its proportions, its associations, had the power of drawing his soul upwards. The way in which it filled the mind with the highest and most heavenly emotion, and the way in which it drew the affections—all this was a service to the Church of the very highest character. There was hardly anything which pleased the worshipper more thoroughly than to enter a building which in every line spoke of man's reverence to God, and reminded us of God's loving-kindness to man. Who could go into a cathedral and observe its solemnity, its wonderful grace, and its extraordinary massing of power, and not feel that there, at any rate, he could offer up his worship when everything surrounding him helped him to do so? The second anecdote he desired to relate was of quite a different kind. He was standing once at the west front of Peterborough Cathedral, and as he stood there gazing a man came up behind him and said, "Britisher, it is very filling at the price." It was also a great service to the nation and the State that we had scattered about all over the land monuments of our ancient history enshrined in buildings, and that we had everywhere buildings which told us of great men of the past, and that reminded us of ancient records of what our forefathers had done. Was it not possible that in this way the art of the past inspired the lives of later generations? and if we were to read the history of our country as surely all true Englishmen would desire to read it—one book which told us of it in many ways, by means of stirring many emotions, was the remains of those buildings that in past times marked different epochs of the history through which the nation had passed.

The Bishop of London proposed "The Fine Arts." He said that architecture differed from all other arts in being frankly democratic. It appealed to the eye and nobody could escape it. From other arts we could have a certain amount of seclusion, but architecture obtruded itself upon us in some shape or another wherever we went. Architecture was a great educator, and we did not know how much a man's artistic instinct sprang from the architecture by which he was surrounded, or how much it was limited by it. How differently we were impressed when we walked down Regent-street and Victoria-street! and if we compared the two impressions, we would see that architecture must necessarily form the basis of the artistic instinct of the ordinary man. Again, architecture was the nursing mother of all the finer arts, and none could exist without it. The most entrancing music would not be listened to in the drizzling rain in the open air, and pictures would lose much of their appreciation if they were not sheltered by architecture. He supposed that architects would rather that they could always work for the Church than the State, because they would certainly have a freer hand, and need not be restricted by any regard for the personal convenience of those who would occupy the buildings. Architects had constantly to struggle against mechanical forces, which unfortunately tended to drag them down from their lofty aspirations, and therefore the necessity of constant communion with the other arts. Architects drew their inspiration from them from time to time, and it was natural that they should give them a high place in their esteem and gratitude. He was glad that there was a movement at the present time to combine the arts more closely together, and he was delighted to couple the name of one with the toast who was himself an example of that intercourse between arts—Sir W. B. Richmond, who had the opportunity of furthering the great design of Sir Christopher Wren.

Sir W. B. Richmond, K.C.B., in reply, said that the fine arts in this country were progressing with a rapidity that was quite remarkable. In the presence of this assemblage of architects he did not dare to express his opinion upon their art, but he would like to refer to two buildings—he might mention many others, but he took these two as examples. One was very near the Palace of Westminster and was received by a storm of abuse, and in the Palace of Westminster some would-be critics talked a great deal of nonsense about it. He alluded to that splendid building by Mr. Norman Shaw. The other building was by Mr. Bentley, which he visited for the first time two days ago, and he had very rarely been so impressed as when first entering that original and manly structure. With regard to art, they should not forget that at this moment there were established in London and in various centres of commerce and industry technical schools which were giving chances to artizans to become artists. Never, as far as he could remember, had the crafts stood in such good stead as they stood now—it had been the fashion lately to run down English art. Journalists had made copy out of by running down English artists in favour o Frenchmen, and it was high time that we took ourselves seriously and respected the country in this matter as we did from a commercial, military, and naval aspect.

Lord Alverstone proposed "The Royal Institute of British Architects and the Allied Societies." He said that the Queen had throughout indicated her interest in this society. When the history of this century came to be written there was no art—and he spoke without exaggeration—which had shown greater development than the art of architecture during the nineteenth century. Whether they considered ecclesiastical or domestic architecture, it would be found that each branch had made immense progress during her Majesty's reign. At the beginning of the century architecture had perhaps fallen as low as it possibly could. One could not imagine anything more depressing than to pass through streets of houses built in the early part of this century, and the same remark applied to many churches throughout the country built at the same period. We had seen what changes had taken place in ecclesiastical architecture by the art of such men as Scott, Pearson, and Blomfield, and during the last twenty or thirty years there had also been a most extraordinary development in domestic architecture. Houses were now being built upon more liberal plans, and crowning pieces of architecture were springing up in all directions. There had indeed been enormous progress, and this Institute had contributed to it in no small degree. Of late years the Institute had allied itself with kindred societies in every part of the United Kingdom and even in the colonies, and he rejoiced to think that in this mutual communication between the allied societies and this Institute professional men could learn from one another. They all had opportunities of communicating ideas, and this was of immense value.

The President, in acknowledging the toast, said he was happy to tell them that, with regard to the prosperity of the Institute, their numbers were at the present time considerably in excess of what they had been in any previous year, and he might also say that the influence of the Institute was yearly extending. There was scarcely a week passed without the Institute being asked for its opinion and advice from all parts of this country and the colonies.

The prosperity must depend a very great deal upon the way in which they followed out the ideal that was in the minds of the founders of this Institute, and that ideal was clearly stated in one of the clauses of their charter. Their aim was a high one, and they had always kept it before them in all the years of the existence of the Institute. With this aim in view they some years ago instituted examinations for the improvement of the rising generation of architects, and in later years these examinations had become compulsory. No man could now become an associated member without having passed a very fair examination in practical knowledge necessary for the carrying on of his profession, and also in design. Mr. Ruskin wrote that the study of the beautiful in Nature and Art might tend to elevate humanity and lead them to a higher life. Architecture should teach us good lessons. Were this idea carried out in our architecture, what object-lessons a walk through our streets would present to-day! Our churches and other places of worship would teach us the beauty of religion; our hospitals, and asylums, and poor law buildings would teach us the beauty of charity; our mercantile buildings would illustrate the beauty of honest hard labour; our Government buildings the beauty of righteous government, and our Admiralty and War Office the beauty of patriotism. At the present time, in walking along our streets, how little we saw to teach us even the history of our land! It was a very hopeful sign when we found a great powerful body, like the London County Council, in incorporating a great change like the Holborn and Strand Improvement, desiring to obtain the co-operation of architects in obtaining a fine scheme for this great Metropolitan improvement, but he was not quite sure whether the London County Council had altogether grasped the difficulty which surrounded such an undertaking, or that they had proceeded in the right way. In order to obtain fine designs, they offered a small premium to certain architects to prepare them, with the condition attached that the drawings were to remain the absolute property of the London County Council to do what they liked with, and that the architects were to expect no further remuneration. A fee of 250*l.* was offered for a design of something like a mile of frontage, but the Council would not guarantee that the architect whose design was accepted should have the superintendence of the detailing of his own work. He could not but think that this showed a lack of intelligence. The man who made the design for such a scheme as this should carry out his own work and detail, so as to be able to realise his imagination, and to make the scheme a success. He did not think that in the public interest the decision of the Council could be considered encouraging to the profession, nor did he think it could be considered satisfactory in the public interest. With regard to the architects themselves who were willing to sacrifice their talents and time on such terms as these, they could only give them the highest praise and the greatest commendation. He did not think the London County Council had in this case exercised the same large-mindedness as they had in other matters, such, for instance, as the housing of the poor, in which their action over and over again had been most praiseworthy.

Sir Thomas Drew also replied to this toast on behalf of the allied societies.

Mr. W. M. Fawcett proposed "The Guests," mentioning that this was the first time they had had a Master of the Rolls as a guest.

Lord Claud Hamilton, in responding, said he trusted that mere materialism would not interfere with the beauty of their architecture. They should get their representatives in Parliament to compel the Government to do its duty by affording opportunities for the art of architecture in this country. Any Englishman returning from Paris was imbued with shame in regard to the architecture of this country.

This concluded the proceedings.

Visit to Greenwich Hospital.

The last visit was made on Saturday to Greenwich Hospital. A hundred visitors went down by special steamboat, lunched at a hotel, and were conducted over the Hospital by Mr. Wm. Crisp, Surveyor to the Admiralty, and over the Royal Naval College, kindly thrown open to the Congress by the Admiral-President. Before leaving for London the whole party were entertained at tea on the lawn of the Old Manor House by Mr. Thomas Dinwiddy. Perfect weather contributed largely to the day's enjoyment.

TIMBER TRADES' BENEVOLENT SOCIETY.

THE first annual festival of the Timber Trades' Benevolent Society was held on Wednesday at the Trocadero Restaurant, Piccadilly-circus. Alderman Sir Joseph Dimsdale presided, and there were nearly 200 present, including the Hon. C. N. Lawrence, Mr. Cumming Macdona, M.P., Mr. W. L. T. Foy, J.P., Colonel C. Bird, Mr. C. J. Wade, Mr. Gilbert Bartholomew, Mr. T. S. Boulton, Mr. H. Bolton, Mr. J. Arnold, Mr. A. Dewell, Alderman Truscott, Mr. J. Griffin, Mr. S. Brownfield, Mr. L. Bamberger, Mr. W. H. Rider, Mr. A. V. Raffety, Mr. L. Neame, Mr. A. Chatterton Sim, Mr. Cobbett, and Mr. F. D. Morgan.

After the toast to the Queen,

The Hon. C. N. Lawrence proposed the "Houses of Parliament." He said he could not help thinking, especially at a moment like this, that the present Parliament deserved well at the hands of the people. If we looked back at the anxiety and depression which many of us had felt during the last nine months, when we had been involved in a war which had not been of our own seeking, we could not but think that our representatives in Parliament had done everything that any sane or just man could desire, because, irrespective of party, the great majority of the Members had not hesitated to vote the necessary supplies to carry on the war and bring it, we hoped, to a speedy conclusion. It had been the fashion in the past to decry all representative, and especially democratic, assemblies, but he ventured to think that the lessons which England and her Colonies had presented to the world during the past few months were such as would cause any one to pause before recommending us to deviate from this present form of government. If we were more than satisfied with the Imperial Parliament with what warmth of feeling must we express ourselves with regard to those sister Colonies across the sea, who had recently shown how closely they were knitted to the Mother Country!

Mr. Cumming Macdona, M.P., in responding, said that as the representative of Rotherhithe, in which the Surrey Commercial Docks were situated, he was in sympathy with every one present that night, and he endorsed most thoroughly what the hon. gentleman said in proposing the toast. There never was a time in the history of our great country when this vast empire existing all over the world stood in so firm a position—when it presented so magnificent an ideal of imperial grandeur as it did to-day. We had discovered by this war forced upon us what magnificent qualities were possessed by England's children. He had the pleasure of bringing in a Bill in Parliament dealing with floating derelicts which affected the timber trade very considerably. Floating derelicts were a source of grave danger to shipping, and this was emphasised when representatives of the Government went to Kiel a year or two ago to see the naval vessels gathered together by the Emperor of Germany. The vessel in which the Conservative Party travelled met a derelict, and had it been night-time instead of day the result might have been serious. He experienced great difficulty in getting the measure passed, but eventually he succeeded.

The Chairman, in proposing "The Timber Trades' Benevolent Society," said that this Society was commenced in a very small way. It was perhaps the idea of many, but it was the practical result of the work of a comparative few. Those few realised the importance of the trade to which they belonged, with its ramifications, its many workers, and its immense capital involved; and they realised that from time to time there must be cases of sorrow and cases of honourable failure. It was feelings of benevolence and charity which actuated the founders in the establishment of this Society in the Jubilee of the Queen's reign. They received substantial and satisfactory response to their appeal, and the managers were enabled to capitalise the sum of 67,000*l.* The interest upon such capital was small, indeed, for carrying out the objects which they had in view, and it was therefore right and meet that there should be increased subscriptions. Some might say that they had calls upon them in their own districts, and ask why should they support this Society. They had only to look at the magnitude of the timber trade for their answer. Last year no less than 9,308,803 loads of timber were imported into the United Kingdom of the sterling value of 21,528,464*l.* When they considered this it was no wonder that they thought it necessary and right to have a Society which would assist those who were personally interested in the trade. Last year's receipts were hardly worthy of such a gigantic portion of the British trade. Only 1,341*l.* 17s. 6d. was subscribed, and of this London alone contributed 996*l.* 9s. When they considered that out of the 9,308,803 loads of timber less than two millions came into the port of London, it appeared clear that more support should be received from the provinces. While London imported less than a quarter of the timber trade brought into the United Kingdom, it had subscribed nearly two-thirds of the whole income of this Society last year. The reason that more support was not given by the provinces was that the Society was not sufficiently known. There was also good cause why they should appeal to their friends connected with the timber trade across the seas, because the Society administered this charity irrespective of nationality.

Col. Bird, in acknowledging the toast, said that already an appeal had been made to the foreign shippers. When this Society was founded a great point was made that assistance should be given, irrespective of creed and nationality, and this had been done. One of the first persons who benefited from this Society was a Swede. During the past few years the timber trade with this country had been so good that foreign shippers had fairly coined money. One foreign shipper who was appealed to for support to this Society wrote, however, that it was nothing more or less than blackmail. But in spite of this the appeal had been met in a very generous manner. Two shippers had sent 100 guineas each and a third had sent fifty. At the present time the Society had 9,800*l.* invested, and they were paying 450*l.* a year in pensions quite apart from the sums expended in alleviating cases of temporary distress. There was and would be much further scope for their work, and it was particularly gratifying that so many efforts had been made in increase their funds. Mr. Foy, their President, had in particular been most indefatigable, and had been called in consequence "the terror of the timber trade."

Mr. Bain, the secretary, announced that about 3,000*l.* had been subscribed as a result of this special effort. The lists to hand were as follows:—The Chairman's list, 370*l.*, including 50 guineas from himself; the President's list, 870*l.* 15s.; Mr. C. J. Wade, 313*l.* 19s.; Mr. A. B. Sim, 310*l.* 10s.; Mr. L. Bamberger, 139*l.* 7s. 6d.; Mr. J. Griffin, 136*l.* 10s.; Mr. C. Bird, 81*l.* 5s.; Mr. D. J. Morgan, 73*l.* 10s.; Mr. F. Clifford, 46*l.* 15s.; Mr. H. J. Nutman, 45*l.* 16s.; Mr. A. V. Raffety, 24*l.* 3s.; Mr. T. Mabbs, 22*l.* 1s.; Mr. L. H. Neame, 15*l.* 15s.; Mr. B. G. Elliott, 15*l.* 15s.; Mr. A. Buchane, 13*l.* 13s.; Mr. Victor Wester, 12*l.* 1s. 6d.; Mr. C. G. Jones, 7*l.* 7s.; Mr. C. F. Turner, 3*l.* 3s.; and Mr. G. T. B. Cobbett, 12*l.* 2s.

Mr. C. J. Wade then proposed "The Visitors," which was responded to by Mr. Gilbert Bartholomew.

Mr. W. L. T. Foy (President) proposed "The Chairman," and Alderman Sir Joseph Dimsdale briefly replied. The proceedings then terminated.

IMBER COURT, SURREY.—This property was withdrawn from sale at auction on the 19th instant at 13,900*l.* The grounds, extending over seventy-one acres, are watered by the Imber and the Mole, affluents of the Thames. The ancient manor of Imleworth—identified with the "Limewide" of the Domesday survey—belonged, until Edward I.'s time, to the family of De Immeworthe; it then passed through various hands to Thomas, Duke of Norfolk, who exchanged it with Henry VIII. for the increase of Hampton Court Chase. In 1630 it belonged to Sir Dudley Carleton, Lord Carleton of Imber, and Viscount Dorchester, Secretary of State to Charles I., who frequently visited him there. Lord Dorchester employed, it is said, Inigo Jones to design what now forms the older part of the house, to which two wings of stuccoed brick were added about one hundred years ago. The twelfth volume issued by the Historical MSS. Commission contains many interesting particulars of the King's and Queen's visits to Imber Court before the outbreak of the Civil War. In 1720 Henry Bridges settled the property upon his niece on her marriage with Arthur Onslow, afterwards Speaker, who resided there during thirty years. The house was latterly the home of Sir Francis Burdett, Cornwallis, Archbishop of Canterbury, and the Duc d'Aumale.

ARCHÆOLOGICAL SOCIETIES.

WORCESTER DIOCESAN ARCHITECTURAL AND ARCHÆOLOGICAL SOCIETY.—On the 14th inst. this Society made its first excursion of the season to Hayles, Winchcombe, and adjoining parishes in the northern part of Gloucestershire. After proceeding by rail to Evesham, Buckland Church was first visited, and notes on it were read by the Rev. J. K. Floyer, who said the oldest part of the church now existing appears to be of the Early English period. The whole of the north aisle, however, bore marks of having been entirely rebuilt at some subsequent period. The tower up to the top story and the arcading of the aisles were of the early Decorated period. The main doorway, the stone porch, the roof with its painting, the top story of the tower, most of the other windows, and some of the seats were Perpendicular. There was on the north a curious priest's door, with a width of only 1 ft. 8½ in. On the west wall would be noticed the trace of the weathering of the former roof, which was probably erected at the same time as the nave arcades. There was some fine panelling all round the church, and the seats on the south with testers were remarkable. This, with the font, were probably of the seventeenth century. The east window claimed attention. A date outside, 1585, marked its erection during the reign of Elizabeth, but the glass must be older. Outside, over the chancel arch, was to be seen a bell cot for the sanctus bell.—The party then proceeded to Stanton Church, an ancient stone building of Norman and later styles, with chancel, clearstoried nave, south aisle, transepts, south porch, and an embattled western tower, with pinnacles and spire. Some notes were read by Mr. Floyer, in which he said that the chancel had been rebuilt late in the thirteenth century, and that in the fifteenth century the nave had been extended 10 ft. and a south aisle built. The next halt was made at the village of Stanway. Luncheon was served in Stanway House Tithe Barn, which, as Mr. Weston pointed out, was built in the twelfth century by the Abbots of Tewkesbury to hold their corn. The present roof was added in the fifteenth century. The building had been restored by Lord Wemyss in 1865, and was now used by permission of Lord Elcho for purposes of recreation. Under the guidance of Mr. Weston the party next inspected the church (a stone building of Norman, Early English, and Perpendicular styles) and Stanway House, which was built by Sir Paul Tracy in 1620, and is an example of English Renaissance of the best period. There is a gateway by Inigo Jones. At Hales Abbey Mr. St. Clair Baddeley took charge of the party and conducted them over the ruins. The excavations lately carried out by the Bristol and Gloucestershire Archæological Society have laid bare the original site of the cloisters, along which Mr. Baddeley conducted the party, and pointed out the site of the Abbot's cloister, the kitchen, the refectory with its cupboards, monks' lavatory, the staircase leading to the monks' dormitory, the infirmary of the monastery, the chapter-house, and the sacristy. Upon leaving the cloisters, and entering upon the site of the Abbey, Mr. Baddeley exhibited a plan of exceptional interest of the polygonal apse of the ancient building. He also read a copy of a document which he had seen in the Vatican which showed that the building was restored in 1415. No less than seven Royal personages, including the founder, were buried in the Abbey. The party next visited Winchcombe, where the Rev. Dr. Taylor, Vicar of Winchcombe, conducted them over the church, which is of the late Perpendicular period. It was built by Abbot William of Winchcombe with the help of Lord Boteler and the inhabitants in 1470. In 1690 the east end fell in, and a high pitched roof was built; and it remained until the restoration of the church in 1872. Dr. Taylor called attention to a singular almsbox with three locks, dating from about 1547, which was affixed to one of the pillars. He also pointed out that the inserted work, now used as sedilia, was at least one hundred years older than the church. He then exhibited the church plate, which included a chalice dated 1570, a paten dated 1686, a flagon presented in 1709, and a peculiar oblong silver gilt dish presented to the parish in 1737 by Mr. Edwards Beall, a London goldsmith. A door and fragments of moulding belonging to the ancient Benedictine Abbey of Winchcombe, founded by Kenulf, King of Mercia, are preserved in the vestry. On their way to the train at Ashchurch, the party visited the interesting little church at Little Washbourne, a hamlet in the parish of Overbury, the population of which in 1781 was 44, in 1881 22, in 1891 16, in 1896 7. Mr. Cossins, of Birmingham, architect, read some notes on the building, in the course of which he said that of the small Norman church, built here in the twelfth century, some fragments of wall, parts of the western buttresses, chancel arch, a window on the north side of the chancel, and the cross on the eastern gable were the sole remains. All the other architectural details had been destroyed to give place to the coarse features and badly-built masonry of the latter part of the last century. The building was, however, still picturesque and attractive, and retained an unmistakable ecclesiastical character. The dimensions of the nave were about 28 ft. 6 in. by 18 ft., and of the chancel 18 ft. by 12 ft. 6 in., but it appears very probable that the latter was originally somewhat longer. The ancient cross, with the saddle stone remaining in good preservation, on the east gable was a very good and interesting example of the twelfth century. The pulpit desk with canopy and pews, all of oak, and in the usual panelled and moulded manner of the Georgian period, were well executed and remained quite sound. The nave roof was a comparatively modern reconstruction, in which some of the ancient timber had been re-used. The tie-beams, owing to the falling outwards of the walls, have in one or two instances almost lost their hold of the walls. It appears probable that the wall-plates were never properly secured to the ends of the tie-beams, and to the neglect of this precaution the falling outward of the walls might be in great part due.

SURREY ARCHÆOLOGICAL SOCETY. — An afternoon meeting of this Society was held on the 16th inst. at Kingston-upon-Thames. Assembling at the old parish church (All Saints) at 3.0 p.m., the members and friends, including ladies, were received by the Rev. W. S. Young, the vicar, who conducted them over the building, which is at present undergoing repairs. Mr. A. J. Style here read a paper describing the church, of which he said that a full history, by the late Major Heales, would be found published with illustrations in the eighth volume of the Society's Transactions. No record survives of the building of the first church in Kingston, though we know that one existed in Saxon times, but of this not a vestige now remains. The church is mentioned in Domesday Book, and some remains of a Norman doorway were found in the north wall, and also indications of Norman work built in one of the tower piers. Of the exact date of the present church we have no certain information, but probably it was built in the latter half of the fourteenth century in the reign of King Richard II. The whole of the church was originally faced with flints. In comparatively modern times the whole of the nave, or nearly so, and aisle walls had been faced with brickwork. The nave and aisles and two transepts have now been carefully repaired and restored under the direction of the late Mr. Pearson. On the respond of the arch to the south chancel from the transept are the remains of a wall painting, probably of the fifteenth century, which most likely is a figure of St. Blaise. The chancel has two side chapels dedicated to St. James and to the Holy Trinity. In the Holy Trinity Chapel the piscina remains, and a low vestry has been added further eastward. After describing the monuments and brasses, Mr. Style said that adjoining the present church and opening from it (probably on the south side of the chancel aisle) stood the more ancient Chapel of St. Mary, which may have been the original Saxon church, but of which no traces now remain. It was destroyed in 1730. If this was the original church, and possibly the place where the Saxon kings were crowned, the neglect which suffered it to get into bad repair, and subsequently its complete destruction, caused deplorable loss to the antiquities of the town. The Rev. W. S. Young exhibited the register-books to the meeting, including one dating from 1542, which has been lately restored to the vicar and churchwardens. Dr. Finny, ex-Mayor of Kingston, then conducted those present to inspect the newly-discovered vault in Old Bridge-street, on the site of the old "Rose and Crown Inn." He afterwards said the excavations were in a line with the site of the old bridge, the earliest reference to which appeared in the Court Rolls of the seventh year of the reign of Henry III. (1223). In the following year the king gave seizen to the sheriff of the bridge, the house belonging to the bridge, and also the muniments and charters of the same. The house belonging to the bridge was probably where the excavations now were. The next visit was to the Market-place, where, by permission of Messrs. Chilcott, an interesting staircase belonging to the old "Castle Inn" was viewed, and on which Mr. E. F. A. Spratt subsequently read a short paper. He said the house undoubtedly contained what may be termed a typical staircase of the Late Elizabethan or Early Jacobean work. It was broad, well-proportioned, massive, and certainly most interesting. The carved panels were of different designs, and made to represent grotesque figures of beasts, birds, &c., and children riding outside Bacchanalian casks or tuns. There were also initial letters, S. B., C. B., and F. B. carved thereon. After inspecting the ancient coronation stone whereon seven Saxon kings were crowned, commencing with Edward the Elder in 901, and ending with Ethelred II., 979, also the Clattern Bridge and Alderman Gould's museum of antiquities, a visit was made to the Town Hall. Mr. Ralph Nevill presided, and invited Dr. Finny to read a paper on "Kingston Place-Names," and another on the Town Hall, describing the maces, official chains, the charters, pictures, and heraldry of the stained-glass windows. The party, numbering more than sixty persons, then left the Town Hall, and, by permission of the Rev. W. Inchbald, a visit was paid to Lovekyn's Chantry, now used as the Grammar School, which was described by Mr. Ralph Nevill. A paper on this building, with illustrations, will be found in the eighth volume of the Society's Transactions, written by the late Major Heales.

COMPETITIONS.

LIVERPOOL DOCK BOARD'S NEW OFFICES.—When the Mersey Docks and Harbour Board resolved many months ago to build for themselves new board-rooms and offices they offered to the local architects premiums of 300*l.*, 200*l.*, and 100*l.* for designs. About a dozen plans were sent in, and a special committee, assisted by the Board's architectural adviser, Mr. Alfred Waterhouse, R.A., was appointed to decide upon them. This Committee have now made their awards. The premium of 300*l.* has been awarded to a design which is the joint work of Messrs. Briggs & Wolstenholme, 3, Lord-street, and Messrs. F. B. Hobbs, and Arnold Thornely, 14, Castle-street; that of 200*l.* was given to Messrs. Woolfall & Eccles, Bank-buildings, 60, Castle-street; and the 100*l.* premium was awarded to Mr. James H Cook (Messrs. T. Cook & Sons), 12, George's-crescent.

GRAMMAR SCHOOLS, BURY.—The Governors of the Bury Grammar Schools offered three premiums for the best designs for the new grammar schools, viz., 100*l.*, 60*l.*, and 30*l.* Thirty-five sets of designs, numbering 199 separate drawings, were sent in, and the assessor, Mr. J. Cartwright, made his award as follows:—1st, Mr. Wm. Venn Gough, 24, Bridge-street, Bristol; 2nd, Mr. H. Teather, Gateway Chambers, Castle-street, Shrewsbury; 3rd, Messrs. Woodhouse & Willoughby, 100 King-street, Manchester. The estimates in each case were between 19,000*l.* and 20,000*l.*

THE LONDON COUNTY COUNCIL.

THE Council reassembled at the County Hall, Spring-gardens, on Tuesday, after the Whitsuntide recess, Alderman W. Dickinson, Chairman, presiding.

Loans.—On the recommendation of the Finance Committee it was agreed to lend the Lewisham District Board 400*l.* for the erection of a cottage at depôt; the Newington Vestry 10,000*l.* for paving works; the St. Luke's, Middlesex, Vestry 2,100*l.* for sewer works; the Wandsworth District Board 2,300*l.* for underground convenience and buildings at depôt; the Metropolitan Asylums Board 75,000*l.* for erection and fitting of asylum; the Hammersmith Guardians 14,500*l.* for the purchase of land; the Limehouse District Board 21,790*l.* for paving works; the St. George-in-the-East Guardians 4,550*l.* for works at the infirmary and drainage works at workhouse; and the St. George-the-Martyr, Southwark, Libraries, &c.,

Commissioners 3,500*l.* for the purchase of land as a site for a public library.

The Works Department.—The half-yearly return of works completed by the Works Department of the Council was submitted. Out of twenty-two works commenced by the present management, fifteen have been executed at a less cost than the estimates, resulting in a saving of 4,010*l.* On the other hand, certain blocks of dwellings erected by the Housing Committee have cost considerably more than the estimates as finally revised by the Architect. The total amount of excess cost upon these and other works is 7,680*l.*, and on the balance there has been a loss of 2½ per cent. At the present time the Department has thirty works in progress, exclusive of jobbing works, and representing a total estimated cost of 592,321*l.* The principal works are Horton Asylum, Hackney-wick sewer, North Woolwich drainage, Barking sludge-tanks, four fire brigade stations, and two blocks of artisans' dwellings. In a detailed statement of the cost of the works, the committee apportioned the various items as follows :—Wages 47·7 per cent., materials (including cartage and incidentals) 39·7 per cent., use and waste of plant 3·6 per cent., general charges 4·1 per cent., establishment charges 4·9 per cent.

In comparison with the loss of 2½ per cent. on works undertaken by the new management, the committee stated that the whole of the works commenced under the old management were now completed, and showed a total excess cost over estimates of 71,234*l.*, or a loss of 9¾ per cent. on an expenditure of 865,224*l.*

The discussion of the report was postponed.

Barking and Crossness Outfall Works.—The following recommendations of the Main Drainage Committee were agreed to—

That the expenditure of a sum not exceeding 500*l.* be sanctioned for repainting the overhead steel tanks at the Barking outfall works, and that the work be carried out by men employed under the direction and supervision of the superintendent of the station.

That an expenditure of 112*l.* 10*s.* be sanctioned for the supply and erection of iron hurdle fencing for a length of about 370 yards between Barking-creek and the Council's property, and that the offer of Mr. John Jackson be accepted.

That the expenditure of 500*l.* be sanctioned for materials and labour in raising the level of the river-wall at the Crossness outfall to 18 ft. above Ordnance datum, and that the work be carried out as a jobbing work by the Works Department.

The Council, having transacted other business, adjourned.

APPLICATIONS UNDER THE LONDON BUILDING ACT.

AT the meeting of the London County Council on Tuesday, the following applications under the London Building Act were considered. Those applications to which consent has been given are granted on certain conditions. Names of applicants are given in brackets. Buildings are new erections unless otherwise stated :—

Dwelling-house on Low-lying Land.

Poplar.—That the Council, acting upon the decision of its Chief Engineer given under the provisions of Section 122 of the London Building Act, 1894, do refuse permission for the erection of a dwelling-house on the site of No. 98A, Brunswick-street, Poplar (Mr. J. W. Wyles for Mr. A. Bacon).—Agreed.

Lines of Frontage.

Brixton.—Thirty-three houses, with bay windows, on the west side of Hackford-road, Brixton (Mr. J. Fasnacht for Captain T. T. Jennings, R.N.).—Consent.

Kennington.—One-story addition to the Drill Hall, No. 76, Lower Kennington-lane, Kennington, to abut upon Reedworth-street (Mr. T. Bayly for the Commanding Officer of the 3rd Middlesex Artillery).—Consent.

Battersea.—A one-story bay window and porch to Clifton House, No. 58, Cambridge-road, Battersea, at the corner of Bridge-road (Mr. H. Branch for Dr. Macrory).—Consent.

Clapham.†—Houses on the west side of Silverthorne-road, Battersea, to abut also upon Tennyson-street (Mr. J. S. Cooper for the executors of Mr. P. W. Flower).—Consent.

Hackney, South.—That the application of Mr. A. W. Weston for Mr. Chambers and himself, for an extension of the period within which the erection of one-story shops on the forecourts of Nos. 171 to 189 (odd numbers only), High-street, Homerton, was required to be commenced, be granted.—Agreed.

Hammersmith.—Cloak-rooms and lavatories upon the forecourt of the Athenæum, Godolphin-road, Shepherd's Bush (Messrs. J. T. Wimperis & Arber for Mr. J. C. Platt).—Consent.

Islington, North.—A one-story shop on part of the forecourt of No. 539, Holloway-road, Islington (Miss M. A. Hart).—Consent.

Islington, West.—A one-story bakery at the rear of No. 170, Caledonian-road, abutting on Charlotte-street, Islington (Messrs. W. Goodman & Sons for Mr. F. Vogt).—Consent.

Kensington, South.—That the application of Mr. B. Hosegood, for an extension of the period within which the erection of a block of buildings with projecting bay windows, &c., at Hyde Park-gate, Kensington, on the south side of Kensington-road, to abut also upon Palace Gate, was required to be completed, be granted.—Agreed.

Kensington, South.†—A two-story addition to No. 12, Sydney-place, South Kensington, to abut upon Fulham-road (Mr. S. B. Beale for Dr. Norman McCaskie).—Refused.

Hackney, South.†—One-story shops upon part of the forecourts of Nos. 20 to 44 (even numbers only), Rushmore-road, Clapton (Mr. G. S. Garey for Mr. Felman).—Refused.

Walworth.—Domestic buildings on the south-west side of Madron-street, Old Kent-road, Newington, next the "Two Eagles" beer-house (Mr. L. A. Withall for Messrs. H. Lovibond & Son).—Refused.

Wandsworth.—A one-story shop on part of the forecourt of Westwell-villa, Lower Richmond-road, Putney (Mr. D. A. Ross).—Refused.

Wandsworth.†—A one-story stable on the south-east side of Magdalen-road, Garratt-lane, Earlsfield (Mr. F. J. Liddington).—Refused.

Wandsworth.—A one-story shop in front of No. 1, Ashlone-terrace, Lower Richmond-road, Putney (Mr. T. Jones).—Refused.

Projections.

Islington, North.—A projecting bay window at the angle of a block of residential flats on the west side of Crouch Hill, Islington, at the corner of Heathville-road (Mr. C. W. Matthews).—Consent.

City of London.—That the Council do make no order with respect to the application of Messrs. Davis & Emanuel on behalf of Mr. A. F. Yarrow, for consent to the erection of an oriel window at Finsbury-pavement House, at the corner of Finsbury-pavement and South-place, City.—Agreed.

Strand.—That Mr. H. M. Wakley be informed that the Council is not prepared to accede to his request for a renewal of the licence in respect of illuminated signs in front of the "Star and Garter" public-house, No. 62, Poland-street, St. James's.—Agreed.

Marylebone, East.—An iron and glass shelter over the entrance to Nos. 90 and 92, Oxford-street, St. Marylebone (Mr. G. I. Spalding).—Refused.

Strand.†—An addition to the iron and glass shelter at the Tivoli Music Hall, Strand (Mr. W. Emden).—Refused.

Width of Way.

St. Pancras, East.—A two-story stable and store at the rear of No. 20, Rochester-terrace, Camden-road, at less than the prescribed distance from the centre of Rochester-place (Mr. J. A. Smith for Mr. F. J. Moule).—Consent.

Bermondsey.†—A one-story building at the rear of the "Swan" public-house, Old Kent-road, Bermondsey, at less than the prescribed distance from the centre of Comus-place (Mr. J. G. Ensor for Messrs. Watney, Combe, Reid, & Co., Limited).—Consent.

Hampstead.—A one-story stable and van-house at the rear of No. 1, Priory-road, Kilburn, at less than the prescribed distance from the centre of Priory-mews (Messrs. S. J. Dainton & Son for Mr. W. Palmer).—Consent.

Lambeth, North.—That the application of Mr. W. H. Lees for Messrs. Sandell & Sons for an extension of the period within which the erection of a warehouse on the site of No. 84A, Cornwall-road, Lambeth, at the corner of Secker-street, was required to be commenced, be granted.—Agreed.

Poplar.—A building at the Atlas Chemical Works, West Ferry-road, Poplar, at less than the prescribed distance from the centre of a public footpath known as "Millwall" (Messrs. J. & S. F. Clarkson for Messrs. J. B. Lawes & Co., Limited.—Consent).

Kensington, South.—A one-story stable on the south side of Kelso-place, Kensington (Messrs. Charrington, Sells, Dale, & Co.).—Refused.

Lines of Frontage and Width of Way.

Deptford.—Buildings on the east side of Lauriegrove, New-cross, Deptford (Mr. J. W. Penfold for the Goldsmiths' Company).—Consent.

Rotherhithe—A three-story addition on the east side of Guy's Hospital, Southwark, to abut upon Great Maze-pond (Mr. A. W. Pelling for the treasurer and governors of Guy's Hospital).—Consent.

Greenwich.—That the application of Mr. C. Reilly for the President and Governors of Queen Elizabeth College, Greenwich, for an extension of the periods within which the erection of buildings on a site abutting upon Greenwich-road, Ashburnham-road, and Egerton-road, Greenwich, was required to be commenced and completed, be granted.—Agreed.

Hackney, Central.†—A building to be used as a factory, on the site of Nos. 35, 37, 39, and 41, Sylvester-road, Mare-street, Hackney, to abut also upon Pigwell-path (Messrs. Ford, Son, & Burrows for Messrs. Stapley & Smith).—Consent.

Width of Way and Projection.

St. George, Hanover-square.—Wood and glass enclosures to the sides of an iron and glass porch at the entrance to No. 6, Berkeley-square, Piccadilly (Mr. G. R. Hammond for Mr. Thomson).—Refused.

Space at Rear.

Wandsworth.—A modification of the provisions of part V. of the Act with regard to open spaces about buildings, so far as relates to the proposed erection of a building, to be used as a stable, harness-room, coal bunker, and offices, in a yard on the south side of Weimar-street, High-street, Putney, without an open space at the rear (Messrs. E. N. Clifton, Son & Hope, for Messrs. F. Tucker & Co.).—Agreed.

Deviation from Certified Plans.

Lambeth, North.—Deviations from the plans certified by the district surveyor, under Section 43 of the Act, so far as relates to the proposed rebuilding of No. 2, Lambeth-palace-road, and "The Rodney" public-house, No. 215, Westminster-bridge-road, Lambeth (Mr. W. Woodward, for the Camden Brewery Company).—Consent.

Finsbury, Central.—Certain deviations from the plan certified by the district surveyor, under Section 43 of the Act, so far as relates to the proposed rebuilding of No. 178, St. John-street, and of "The George" public-house, No. 180, St. John-street, Clerkenwell, at the corner of Compton-street (Mr. W. A. Aickman, for Mr. H. H. Finch).—Refused.

Kennington.—Certain deviations from the plan certified by the district surveyor, under Section 43 of the Act, so far as relates to the proposed rebuilding of "The Prince of Wales" beerhouse, No. 11, Jonathan-street, Vauxhall, at the corner of Wickham-street (Mr. L. A. Withall, for Messrs. Lovibond & Sons, Limited).—Refused.

Width of Way, Line of Frontage, and Space at Rear.

Brixton.—A building, to be used as a residential club, at the rear of Nos. 40 to 46 (even numbers only), Stockwell-road, Brixton, in advance of the general line of buildings, and within the prescribed distance from the centre of Eastcote-street, and also with an irregular open space at the rear, and a portion of the building to extend above the diagonal line directed by Section 41 of the Act to be drawn (Mr. A. T. Bolton and Mr. C. Clark for Ingram Houses, Limited).—Refused.

Line of Frontage and Temporary Structure.

Strand.—Retention of a temporary stone landing with a wooden goods shoot under, at No. 70, Jermyn-street, St. James's, to abut upon Bury-street (Mr. J. Greenwood for Messrs. Standen & Co.)—Consent

Width of Way and Temporary Building.

Battersea.—A temporary wood and iron mission-room, at the rear of Nos. 85 and 87, Bridge-road West, Battersea, within the prescribed distance from the centre of a narrow roadway leading out of Surrey-lane (Mr. W. Harbrow for Mr. W. G. Brown).—Refused.

Formation of Streets.

Norwood.—That an order be issued to Mr. W. H. Collier sanctioning the formation for laying out of new streets for carriage traffic in continuation of Strathleven-road and Lambert-road, Brixton (for Mr. T. Price). That the names Strathleven-road (in continuation) and Lambert-road (in continuation) be approved for the new streets.—Agreed.

Woolwich.—A further deviation from the plan and sections sanctioned by the Council on July 25, 1898, for the formation of new streets for carriage traffic to lead out of Swingate-lane and Timbercroft-lane, Plumstead, so far as relates to an alteration in the direction and levels of the new street to be named Timbercroft-lane (in continuation) (Mr. A. E. Habershon for Messrs. McAllister).—Consent.

Woolwich.—That an order be issued to Mr. J. O. Cook refusing to sanction the formation or laying-out of a street for carriage traffic to lead from Clay-lane to Ennis-road, Plumstead Common-road, Plumstead (for Mr. H. W. Grant).—Agreed.

Woolwich.—That an order be issued to Mr. H. Busbridge refusing to sanction the formation or laying-out of a new street for carriage traffic in continuation of Roydene-road, Plumstead; and the formation or laying-out of a new street, for foot traffic only, to lead out of the proposed extension of Roydene-road (for Mr. J. B. Atkins and the executors of the late Mr. G. E. Arnold).—Agreed.

Height of Building.

Whitechapel.—A warehouse on the north-east side of Middlesex-street (formerly Sandy's-row), Whitechapel, at the corner of Cobb-street, to exceed in height the width of Cobb-street (Mr. E. T. Powell for Messrs. Dakin Brothers).—Consent.

Buildings for the Supply of Electricity.

Greenwich.—Electricity generating station, Stowage-wharf, Stowage, Deptford. Additions, consisting of an extension of one of the boiler-houses,

an iron covered way between two existing boiler-houses, and a transformer-room and stores (Mr. G. A. Lansdown for the London Electric Supply Corporation, Limited).—Consent.

The recommendations marked † are contrary to the views of the Local Authorities.

BOOKS RECEIVED.

ANCIENT AND MODERN SHIPS. By G. V. C. Holmes. (Chapman & Hall.)

FIRE TESTS WITH FLOORS. (Nos. 45 and 55 of the Publications of the British Fire Prevention Committee.)

ETUDE SUR LES HABITATIONS À BON MARCHÉ. Par Chas. Lucas. (Paris: Librairie de la Construction Moderne.)

Correspondence.

To the Editor of THE BUILDER.

A QUESTION OF SUPERANNUATION.

SIR,—Has the London County Council joined the "Too Old at Fifty League"? Judging from the advertisement for clerks of works they have, seeing that the age is limited to forty-five years. Some men are as young at sixty as others at forty; then in public appointments of this nature why not treat an applicant on his merits? Surely if experience and sound judgment are required a man from fifty to sixty should be an ideal applicant. A man may conduct a campaign, be a member of the Government, a Secretary of State, or Prime Minister even at seventy or eighty, but the line must be drawn somewhere, and the L.C.C. has drawn it at a "clerk of works for artisans' dwellings."

PRO BONO PUBLICO.

The Student's Column.

DETAILS OF STRUCTURAL IRON AND STEEL.

25.—FLOOR-FRAMING.

SO many different systems of flooring are now adopted that the work of designing a building is somewhat more complicated than it was a few years ago. Before the structural iron or steel work can be planned the architect must decide exactly what type of floor is to be employed. This course is necessary because the weights and forms of construction of floors differ very much one from another; consequently there must be considerable variations in the amount and nature of the stresses caused. Some floors merely act as distributed loads exerting force in a downward direction, and others exert force or forces laterally against the girders or the walls of a building. In the latter case additional strength must be provided in some suitable way, of which the architect should naturally be the most competent judge. Cases are not altogether unknown where buildings have first been designed, and plans have then been issued to various manufacturers of special types of flooring, so that each might prepare an estimate and specification of the floors recommended. It is to be hoped that practice such as this is rare, for all the parts of a building cannot be in complete harmony with one another if important features are designed by two persons, neither of whom understands the work of the other. For the calculation of dead loads on floors it is necessary that the architect should be familiar with the weight per square foot of the various forms of ordinary and special floors, including floor beams and girders. Many of these can be found by calculation, and others will be readily furnished by the makers. Some information on this point on page 416 in the present volume of the *Builder* is sufficiently indicative of the difference in weight of different floor systems all of which are uniform as to strength. Live loads must necessarily be estimated by the aid of assumed data, as no one can prophesy the exact load which will be imposed on any floor. In this country a considerable difference of opinion seems to prevail as to the proper allowance to be made for live loads.

According to one well-known authority, the following provisional weights are usual:—

Dwelling-houses	.....140 lbs. per square foot.
Public buildings	.....168 " " "
Warehouses	.....280 to 336 " " "

Judging from the average suburban residence, we may reasonably infer that the enterprising builder has far more confidence in the strength and rigidity of materials than is implied by the above-mentioned figures. To enable the student to arrive at any trustworthy idea of the probable live load, it is necessary that he should make a few simple calculations for himself. He will then see that vague rules are not particularly useful, and that they are likely to conduce to the waste of material on the one hand, or possibly to deficiency of strength on the other. Take the case, for instance, of an ordinary dwelling-room. The number of occupants per square yard cannot well average more than three, and, taking the weight of each person at 168 lbs., the load per square foot would not be higher than $(168 \times 3) \div 9 = 56$ lbs. In parts of the room where bending moments are greatest the furniture will not weigh more than the persons who could occupy the same space, and heavy furniture is always situated near the walls where bending moments are smallest. Therefore, it would be quite safe to take the maximum live load at 70 lbs. per square foot. In bedrooms the load cannot well be more than half this amount, unless exceptionally heavy furniture be used. Rooms occupied as offices have to carry heavier loads, and provision ought to be made for at least 100 lbs. per superficial foot.

In public buildings allowance must generally be made for vibration caused by dancing, drilling, or gymnastic exercises, in addition to the weight of the persons themselves. Experimental evidence shows that a square yard of floor surface will not conveniently afford space for more than six men weighing 12 stone, or 168 lbs. each. If crowded together, as they would then necessarily be, there could be practically no movement, and consequently no vibration. The maximum live load is, therefore, $(168 \times 6) \div 9 = 112$ lbs. per square foot. Vibration caused by movement may be said to produce an effect about equivalent to that due to the weight of the persons, and as the weight of soldiers in close marching order does not exceed 80 lbs. per square foot, we can safely assume 160 lbs. to be an adequate allowance for live load. In the case of churches and assembly rooms, where the occupants are always supposed to be seated, an allowance of 120 lbs. per square foot ought to be amply sufficient. Warehouses are sometimes specially designed for particular purposes, and if so, it is an easy matter to calculate what load will come upon the various floors. Frequently, however, warehouses are built with the intention of being leased to any tenants who may find the premises suitable, and the architect must then be sure to fix his hypothetical live load at an ample value. In ordinary warehouses an allowance of from 200 lbs. to 250 lbs. per square foot ought to suffice; but if heavy machinery has to be provided for, the estimate should be increased to 350 lbs. or 400 lbs. per square foot. The determination of suitable sections for floor girders and joists is by no means a difficult matter, as the two following examples will show.

EX. 1.—Suppose that a floor has to be constructed for a building and is to be supported by rolled steel girders. The greatest live load is assumed to be 150 lbs. per square foot, uniformly distributed; the distance from wall to wall is 20 ft.; the main girders rest upon the walls, and are to be 10 ft. apart. Small joists spaced 5 ft. apart are to be supported by the main girders, and these joists are to carry a fireproof floor, the weight of which, complete with concrete, flooring boards, and ceiling, is taken at 59 lbs. per square foot. In the first place, the load on one joist should be ascertained. The dead weight of the flooring is, 59 lbs. $\times$ (10 $\times$ 5) = 1·32 tons; the live load is 150 lbs. $\times$ (10 $\times$ 5) = 3·35 tons. Total, excluding the weight of the joist, 4·67 tons. Referring to a table of breaking loads for beams and using a factor of 4, or to a reliable table of safe loads in which the same factor is employed, we find a suitable section for our 10 ft. span to be one measuring 7 in. $\times$ 3¾ in., the permissible load for which is 5·48 tons, and the weight is 16 lb. per foot run. This section possesses a sufficient margin of strength to cover its own comparatively insignificant weight, which does not amount to ·08 ton for a length of 10 ft. In the next place, the load on one main girder should be calculated. The dead weight of the flooring is 59 lb. $\times$ (20 $\times$ 10) = 5·27 tons; the dead weight of five joists supporting the four floor spans is 16 lb. $\times$ (5 $\times$ 10) = ·36 ton; the live load is 150 lb. $\times$ (20 $\times$ 10) = 13·4 tons. Total, excluding the weight of the main girder, 19·03 tons. Referring again to the table of beams, we find a suitable section for the span of 20 ft. to be 14 in. $\times$ 6 in., the safe load for which, with a factor of 4, is 19·8 tons. Again we have a sufficient margin of strength to cover the weight of the girder itself, which is less than ·51 ton.

When the weight of a beam is small as compared with that of the load to be carried, the surplus strength ensured by choosing a suitable stock section is very frequently sufficient to provide for the dead load caused by the beam. This point should not, however, be left to chance, as it may happen that a slightly stronger section will be found necessary when the weight of metal is considered.

EX. 2.—In this case we will assume that the floor to be constructed is to be carried, as before, by steel girders, but that the flooring is to consist of timber 3 in. thick and weighing 42 lbs. per cubic foot. Let the live load be 150 lbs. per square foot, the distance from wall to wall 20 ft., and the main girders 10 ft. apart. Proceeding as in the previous example, and assuming the joists to be 30 in. apart, we find the dead load of timber on one joist to be 42 lbs. $\times$ (3 $\div$ 12) $\times$ (10 $\times$ 2·5) = ·117 ton; the live load is 150 lbs. $\times$ (10 $\times$ 2·5) = 1·674 tons. Total, excluding weight of the joist, 1·79 tons. If this were the total load, and if deflection had not to be considered, the most economical section for use would be one measuring 4⅜ in. $\times$ 1⅞ in., and weighing 10 lbs. per foot run. But as a safeguard against excessive deflection, the depth of the joist ought not to be less than 10 ft. $\div$ 20 = 6 in. Consequently the smallest permissible section is 6 in. $\times$ 2 in., weighing 12 lbs. per foot run, and as with a factor of 4, this is capable of carrying 2·9 tons we have an ample margin of strength. If economy be an object, as we believe it very often is, the spacing of the joists may be increased to 3 ft. 4 in., and even then the total load on one joist will be less than 2·5 tons, which is well below the carrying capacity of the selected joist. In fact, if a section measuring 5½ in. $\times$ 2 in. were used, its strength would be ample, and the deflection might perhaps not be inconvenient. Taking now the load on one main girder, the dead weight of the timber is $42 \times (3 \div 12) \times (20 \times 10) = ·94$ ton; the weight of seven joists, 3 ft. 4 in. apart, is 12 lbs. $\times$ (7 $\times$ 10) = ·38 ton; the live load is $150 \times (20 \times 10) = 13·4$ tons. Total, excluding weight of main girder, 14·72 tons. The most suitable section is one measuring 14 in. $\times$ 6 in., weight 46 lbs. per foot run, the safe load for which, using a factor of 4, is 16·09 tons. Including the weight of the girder, the total load is 14·72 + ·41 = 15·13 tons, and the selected girder provides a sufficient margin of strength.

Comparing the total weights of the two floors suggested in the above examples we find in the first case that one span of 20 ft. by 10 ft. weighs 19·54 tons. Consequently, the load on the pier supporting one end of each main girder is approximately 10 tons, and if there be five such floors the load per pier will be 50 tons, in addition to the other loads which must be expected. In the second case, one span of 20 ft. by 10 ft. weighs 15·13 tons. Therefore the load on each pier is only about 8 tons, or 40 tons if there be five floors. The difference of 10 tons on each pier of the building is an important item, and one which emphasises the necessity for determining beforehand exactly what system of flooring is to be adopted.

In concluding our consideration of floor framing, the following extract from the New York Building Law of 1892 may be usefully quoted:—"All iron or steel trimmer beams, headers, and tail beams shall be suitably framed and connected together, and the iron girders, columns, beams, trusses, and all other ironwork of all floors and roofs shall be strapped, bolted, anchored, and connected together and to the walls in a strong and substantial manner. Where beams are framed into headers, the angles which are bolted to the tail beams shall have at least two bolts for all beams over 7 in. in depth, and three bolts for all beams 12 in. and over in depth, and these bolts shall not be less than ⅞ in. in diameter. Each of such angles or knees when bolted to girders shall have the same number of bolts as stated for the other leg. The angle iron in no case shall be less in thickness than the header or trimmer to which it is bolted, and the width of angle in no cases shall be less than one-third the depth of beam, excepting that no angle knee shall be less than 2½ in. wide, nor required to be more than 6 in. wide. All wrought-iron or rolled-steel beams 8 in. deep and under shall have

bearings equal to their depth if resting on a wall; 9 to 12 in. beams shall have a bearing of 10 in., and all beams more than 12 in. in depth shall have bearings not less than 12 in. if resting on a wall. Where beams rest on iron supports and are properly tied to the same, no greater bearings shall be required than one-third the depth of the beams. Iron or steel floor beams shall be so arranged as to spacing and length of beams that the load to be supported by them, together with the weight of the materials used in the construction of the said floors, shall not cause a deflection of more than one-thirtieth of an inch per lineal foot of span; and they shall be tied together at intervals of not more than eight times the depth of the beam." With regard to the last stipulation, it may be well to remark that as the lateral stiffness of a beam depends upon width rather than on depth, the spacing of stays should be governed by the ratio of length to width. Thus, when the span exceeds about twenty times the width of the beam, lateral stays may be required. It should, however, be remembered that in actual practice, sufficient bracing is usually afforded by other constructional details.

Conclusion.

With this chapter comes an end to our present consideration of iron and steel for structural purposes. When making a preliminary survey of the course to be pursued, the author foresaw that if the subject were to be discussed in a manner likely to prove of practical service, it would be impossible to do more than to touch upon the primary manufactured forms of iron and steel available for architectural work, and upon the general laws governing their use. If the attempt had been made to describe all the constructional details into which these materials enter, the space at disposal would have been inadequate, and the result could not have been otherwise than superficial and unsatisfying. Many particulars of the latter kind can be gathered from various sources without any great mental effort or the expenditure of much time. Our object has been to direct the thoughts of the student to the essential nature of things, and to the principles upon which constructional work is based, rather than to describe the mechanical features of work done by other people. Some examination has been made of the processes followed in the manufacture of iron, because such matters properly constitute the starting point of knowledge, and also for the reason that familiarity with the details of production affords a useful clue to the probable behaviour of the material when it appears in manufactured forms. Further, we have endeavoured to present in a manner convenient for reference the most reliable information as to the constitution and actual strength of iron and steel, to explain the nature of stresses and strains, and the manner in which these are measured. Joints and connexions of various kinds have naturally occupied a considerable share of attention, for such details are of the utmost importance in every department of constructional work. The principal forms of structural iron and steel have been described and illustrated, as well as the manner in which they may be practically applied as ties, struts, columns, and beams. Roofs and other framed structures have not come under notice, for no incidental reference to so large a subject could possibly be useful or satisfactory. Inasmuch, however, as the individual parts of framed structures are essentially ties, struts, and beams, many of the details contained in the preceding chapters may be of service.

So far as building construction is concerned, there can be no doubt whatever that the age of steel is still in its infancy, and if the architect of the future is to be, as he ought to be, the master of his profession in all its branches, he must inevitably make it is business to become thoroughly familiar with all the details of iron and steel construction.

INSTITUTION OF ELECTRICAL ENGINEERS.—This Institution held their annual *conversazione* on Tuesday night at the Museum of Natural History. Professor and Mrs. Perry and the Council of the Institution received the numerous guests, the crowded state of the hall and galleries testifying to the flourishing state of the Institution. It was the largest and most successful gathering they have yet had. Lord Kelvin and Mr. Joseph Swan, who have recently been elected honorary members, were present.

OBITUARY.

MR. W. M. TEULON.—We have to record the death, in his 77th year, of Mr. W. M. Teulon, architect, and a retired Fellow of the Institute of Architects. Mr. Teulon was founder of the City Church and Churchyard Protection Society, of which he was subsequently elected a vice-president. It is claimed for him that he was the originator of the idea of the Holborn to Strand street improvement; but we should think it would be rather difficult to name any one person as the real originator of an idea which has now been talked about on all hands for a whole generation, though no doubt he did his best to further and recommend the scheme.

GENERAL BUILDING NEWS.

NEW PASSIONIST CHURCH IN BELFAST.—The Rev. Dr. Henry, Bishop of Down and Connor, laid the foundation stone on the 17th inst. of a church at Ardoyne, for the Passionist Fathers in Belfast. In size the church will be amongst the largest in the North of Ireland. The style is a free Romanesque treatment, based on the style of the Lombardic churches of Northern Italy. The church consists of nave and aisles, with large ritual chancel and side chapels, towers, baptistry, and Calvary chapel, in addition to Lady chapel. The principal front faces directly towards Belfast, and from the western portal a view extending practically over the entire city is to be obtained. The extreme length of the building is 164 ft., the greatest width 68 ft.; height of interior, 52 ft.; height of the western towers, 105 ft. The church is being erected by Messrs. James Henry & Sons, Belfast, from designs by Mr. Walter G. Doolin, M.A., Dublin.

CATHOLIC CHURCH IN LIVERPOOL.—On the 17th inst. the Catholic Bishop of Liverpool (Dr. Whiteside) laid the foundation stone of the new Church of Our Lady of Lourdes and St. Bernard, to be built on a plot of land adjoining the existing St. Bernard School Chapel in Kingsley-road. The new church, which will consist of a nave and aisles, 82 ft. long and 48 ft. wide, is to be constructed of St. Helens bricks with red Runcorn stone, by Messrs. Roberts & Robinson, contractors, Liverpool, from the design of Messrs. Pugin & Pugin, of London and Liverpool, at a cost of about 4,400*l*.

NEW FREE CHURCH AT TURRIFF, ABERDEENSHIRE.—The new Free Church at Turriff, of which Messrs. D. & J. R. M'Millan, Aberdeen, are the architects, has been designed in the Early English Gothic style. The church has a tower at the angle of the front gable, rising to a height of over 70 ft., with provision for a bell and a clock in it. The church is built of freestone. The principal entrance to the church is by the tower door, and the tower forms an entrance-porch. From this porch a double-swing door leads to the vestibule, which is placed along the whole breadth of the church underneath the end gallery, and from this vestibule two doors lead into the ground floor of the church, and a staircase is carried from it up to the gallery. The church is cruciform in plan, the two side transepts being each 6 ft. deep, and the recess behind the choir, in which the pulpit is placed, is also about the same depth. The church will seat on the ground floor 486, and the gallery will accommodate 118. Behind the church there is a hall 40 ft. long by 25 ft. wide, and a session house 25 ft. by 17 ft. 6 in., and these two apartments are so arranged that the one can be thrown into the other. There is also a vestry, and a retiring room adjoining the hall. The following are the contractors who are carrying out the work:—Mason, Messrs. P. Christie & Son, Turriff; carpenter, Mr. Wm. Teunon, Turriff; slater, Mr. Jas. Wilson, Aberdeen; plasterer, Mr. Jas. Clark, Turriff; plumber and heating engineer, Mr. Charles Duthie, Turriff; painting and glazing, Messrs. James Garvie & Sons, Aberdeen. The cost of the buildings will be somewhat over 2,500*l*.

HOMŒOPATHIC HOSPITAL, BROMLEY, KENT.—The Phillip's Memorial Homœopathic Hospital at Bromley was opened on the 9th inst. The building will accommodate fifteen patients, and has two separate wards for special cases, and a small operating theatre, as well as accommodation for the nursing staff and a department for out-patients. The architect was Mr. S. B. Russell, his plans having been selected in competition. Mr. T. D. Graty was the builder.

TOWN-HALL, HELMSLEY, YORKSHIRE.—The Duke of York laid the foundation-stone on the 20th inst. of the new Town-hall, market-hall, and library, which, under one roof, are being provided by the Earl of Feversham at Helmsley in commemoration of the bi-centenary of the possession of the estate by the Duncombe family. The Town-hall will embrace a market-hall, court-house, coffee-bar, town library, and caretaker's house. The market-hall will be on the ground-floor and will be 43 ft. 6 in. by 24 ft. On the west side will be the arched entrance doors of glass, and there will also be similar entrances on the south side whence the library and coffee-bar are entered. The court-house is over the market-hall, and will be 50 ft. 6 in. by 24 ft., the additional length to the hall underneath being accounted for by the fact that it goes over the stairs at the north end. This apartment will be lighted by square windows, the one over the entrance doors having an iron-railed balcony. The building will be of dressed freestone, and the jambs, sills, heads, mullions, and transomes of the windows will be of moulded freestone. There will be a panelled ceiling to the court-house, whilst the exterior roofing will be of red Staffordshire tiles. The ventilation will be carried out by means of a dormer on the ridge of the roof, 12 ft. high, surmounted by a vane. The caretaker's house will be situated at the back, facing Castlegate. The area of the entire building will be 54 ft. by 62 ft. 6 in. The library will be 25 ft. by 15 ft. The architect of the Town-hall is Mr. Temple Moore, of Westminster; and Mr. R. P. Brotton, of Bilsdale, is the contractor.

MUNICIPAL BUILDINGS, CLYDESBANK, GLASGOW.—These new buildings are being erected in Dumbarton-road, and consist of six departments—viz., Municipal offices, Town Hall (including lesser hall), police department, and public baths and fire station, the latter including a block of dwellings for the firemen. There is also the library, containing reference library, 36 ft. by 21 ft. 9 in.; a reading-room, 21 ft. 9 in. by 22 ft.; with librarian's room, book store, &c. Behind the library is placed the lesser hall, with a back gallery, seated for 400 persons. Beyond this is the Burgh Court-room, with male and female witness-rooms, magistrates' room, fiscal's room, lavatories, &c. At Dumbarton-road, or north front, extending for 122 ft., are placed the municipal offices, including, on ground-floor, a large entrance-hall, porch, and vestibule, waiting-room, town clerk's office and private room, master of work's office and private room, rates department and sanitary department, strong rooms, &c. On upper floor of this part are Council chamber with gallery for the public, and four committee rooms with cloak room and lavatory accommodation attached. Near the middle of side street or west front, which extends 224 ft., is the concert hall, accommodating about 1,600 persons, with corridor 10 ft. wide, extending the full length of hall, giving access to the various portions of the hall, and also to the ladies' and gentlemen's cloak rooms and lavatories. Under this in the basement are placed the retiring rooms, lavatories, &c., for artistes. At the south end of the block is the police department, comprising charge-room, inspector's room, detective's room, muster-room, surgeon's room, and thirteen cells, with house for inspector. The baths and fire-station are placed on the west side of a new street, facing the police department, having a frontage of 139 ft., and comprising a swimming-bath, fire-station, and firemen's dwellings. The clear water space in swimming-bath is 50 ft. by 52 ft. in extent, there being a public gallery over the east end to accommodate seventy persons. There are also twelve male and female slipper baths, bathkeepers' room, store-rooms, &c. Adjoining the baths is the fire-station, with office, lavatory, and bathroom, behind which are drill-yard, stables, hose-tower, workshop, &c. Over the fire-station are eight houses for the firemen, each with bathroom accommodation. The design of the buildings is a treatment of the Rennaissance. The municipal part is of two stories with centre and flank projections. The main entrance is in the central projection, and a smaller entrance to Burgh-court, &c., is placed at the east end of the block. To the west end of this front and at a corner of the block is placed a clock tower, rising 109 ft. from the pavement, the upper part of the tower forming an open belfry. The great concert-hall is 100 ft. by 50 ft., and extends the whole width of the site, a feature being made of the gable which fronts the side street. The roof of the hall is of steel, and is circular in form, with decorated ribs and panels. There is a gallery on the sides and back, the side galleries being kept shallower. All the galleries are carried on steel girders and cantilevers, no columns being used on the floor of the hall, which would obstruct the view. The galleries are reached by means of two staircases, right and left of main entrance. The platform will accommodate an orchestra and chorus of from 300 to 400, and is constructed on the telescope principle. A vestibule is provided at the west end communicating with the corridors and staircases. The main entrance and corridors will be panelled and finished in oak, the floors being tiled. The roofs of small hall and Burgh Court-room are open timber roofs. The main staircase is of oak, with ornamental wrought-iron balustrade, and is separated from main vestibule with pillars and arches of stone. The walls of areas, courts, and cells are built with white enamelled bricks; and all the walls and floors of lavatories, &c., are finished with tiles. The tower will be surmounted by a figure symbolical of the triumph of engineering. Over the main entrance is a carved group bearing a shield, on which will be carved the arms of the burgh. The stone used in the building is white sandstone from Bishopbriggs Quarry, except the interior stonework, which is from Overwood Quarry. The total cost of the halls and municipal buildings is estimated at about 30,000*l*. Mr. James Miller, Glasgow, is the architect for the buildings.

ADDITIONS TO MONASTERY, PANTASAPH, HOLYWELL.—On the 14th inst. the foundation stone was laid of a new wing to the Franciscan Capuchin Monastery of St. David, at Pantasaph, Holywell, the addition being intended for the accommodation of novitiates. The new building will be 112 ft. long, 34 ft. wide, and 54 ft. high. The walls will be built

of local limestone, with Talacre stone dressings. One corridor will run the length of the building, and will be so constructed as to be a continuation of the corridor in the existing main building, thus giving one corridor 220 ft. long. On the ground floor will be the community-room, library, work-room, store-room, and offices. On the first floor there will be twelve cells; the second floor will contain seventeen cells. The total cost will be about 7,000*l*. The architect is Mr. T. Richmond Donelley, of Coventry, and the builders, Messrs. Foster & Dicksee, Rugby.

SCHOOLS, EASTERN COUNTIES' ASYLUM, COLCHESTER.—New school buildings, erected in the grounds of the Eastern Counties' Asylum, Colchester, were recently opened by the Marquis of Bristol The schools and shops have been erected on the west side of the institution, and have been built and furnished entirely by Mr. Alexander Peckover, the Lord Lieutenant of Cambridgeshire, who has also built the connecting corridor and gateway, the total cost being 6,000*l*. The block is 80 ft. in length, by 40 ft. wide, and is built in white brick, to match the older part of the institution. There are two stories, with a corridor running through the centre of each, and rooms on either side. These rooms are to be used as follows:—On the ground floor, tailor's, shoemaker's, carpenter's, matmaker's, and brush-maker's shops. On the first floor there are two class-rooms for girls, three for boys, a wood-carving room, and basket-making shop. There are lavatories at each end. The flooring of the corridors and lavatories is of terrazzo pavement, and of the rooms wood blocks on concrete. The class-rooms are divided by sliding partitions. The top story under the roof has been fitted up for storing articles used in the shops. The building is heated throughout by hot water. It is lighted by electricity, and ventilated by one of Blackman's fans. The building was designed by Messrs. Chancellor & Son, the honorary architects to the Asylum. The contractor for the building was Mr. Fred. Bennett, of Ipswich, for the heating Messrs. Beckett, of Chelmsford, and for the electric lighting Messrs. Christy Bros. & Middleton, of Chelmsford. Mr. J. Bugg acted as clerk of the works.

NEW BANK FOR SMALL HEATH, BIRMINGHAM.—The new bank premises at Small Heath, belonging to the London City and Midland Banking Company, were opened on the 18th inst. The new buildings, which are situate at the corner of Coventry-road and Regent Park-road, have been carried out by Mr. C. Bryant, builder, Small Heath, from the designs of Mr. Daniel Arkell, architect. The exterior of the building is executed in Hollington stone, with a clock in the turret at the corner. A large shop adjoins the bank, and suites of offices are built over the bank and shop on the first and second floors. The total cost is about 10,000*l*.

CO-OPERATIVE PREMISES, LOWER GORNAL, STAFFORDSHIRE.—A new block of buildings for the Dudley Co-operative Society is being erected at Red Hall, Lower Gornal. They will consist of two shops, with office and fitting rooms at the rear, three warehouses, and an assembly hall, 50 ft. by 36 ft., with entrance hall and lobby, lavatories, &c. Adjoining there will be a branch manager's residence, also stabling, cart-sheds, and an open yard. Mr. A. Ramsell, of Dudley, is the architect, the builder being Mr. W. Slater, of Upper Gornal.

DUBLIN UNIVERSITY UNION BUILDINGS.—A new block of buildings is being erected in Trinity College, Dublin, as a Graduates' Tercentenary Memorial. In the Graduates' Memorial the voluntary societies of the University, the Historical, Philosophical, Theological, &c., will here find a meeting place for discussing the questions and problems of the day. There will be writing, reading, and smoking-rooms, a debating-room, a library, cap and gown-rooms, lavatories, &c., so that a past graduate of Trinity, whenever he is in town, can repair at any time to this structure, and there renew his acquaintance with his University. The site granted by the Board is that formerly occupied by Nos. 28, 29, 30, and 31. These houses were entirely devoted to students' chambers, and were some of the oldest buildings of the College, dating as they did from the latter part of the seventeenth century. They generally went by the name of Rotten-row, and were situated on the north of the library square. In the spring of 1899 the demolition was commenced. This block of buildings will add much to the appearance of the College. In the centre is the Graduates' Memorial, erected by subscription, while on either side, adjoining the memorial and of less elaboration, are two blocks of buildings containing chambers for students erected by the Board. The buildings will harmonise with the rest of the college, being built of granite and Portland stone. On the ground floor there will be a large writing-room and library (two stories); on the first floor reading-room and galleries to library (reference library); on the second floor four rooms, for the use of the voluntary societies; on the mezzanine floors (off landings, north staircase) three rooms, for lavatories, cap and gown-rooms, &c. The coal stores, heating apparatus, &c., will be situated in the basement. The staircase and entrance-hall will be 24 ft. by 20 ft. A large theatre or debating-room, some 44 ft. square, will be situated at the rear of the building, to which there will be access from the other principal rooms. The students' chambers will afford better accommodation and conveniences than at present. The bedrooms will be situated on the north side of a corridor, while the sitting-rooms will be on the south side. The sets of rooms will be single, and will afford accommodation for some forty students. A room provided with water, &c., will be placed at the end of each corridor. The buildings have been designed by Sir Thomas Drew, R.H.A., and the work of erection is being carried out by Messrs. Sharp & Emery, of Dublin. Judging from the rapidity with which the work is being prosecuted, it is probable that the palatial pile will be completed in a year.—*Irish Times.*

MISCELLANEOUS.

PROFESSIONAL AND BUSINESS ANNOUNCEMENTS.—Mr. R. J. Beale, architect, has removed his offices from 9, Victoria-street, to Broadway House, Westminster.——Messrs. G. Sandeman & Co., builders' ironmongers, have removed from 15, Borough High-street, to 70, Newcomen-street, Borough High-street, S.E.——Maughan's Patent Geyser Company have removed their show-rooms from 51, Queen Victoria-street, to the Geyser Factory, Holywell-row, Worship-street, E.C.——Messrs. G. B. Kent & Sons, brush manufacturers, of Farringdon-road and Victoria Park, have formed their business into a limited company.

SOLDIERS' HOSPITAL, ALTON.—We hear that Mr. Edward Shield has been appointed architect of the hospital and convalescent camp which the A.M.B. Relief Corps have established at Alton, in Hampshire, for at least 500 men returned sick and wounded from South Africa, and it may be from elsewhere. The Relief Corps have secured from Mr. Montague Knight of Chawton House, a site of 155 acres.

CHICAGO CEMENT AND COLORADO STONE.—Mr. Wyndham, British Consul at Chicago, reviewing the commerce of that city, observes that "cement is not mentioned at all as imported from the United Kingdom and little from Germany or Belgium. This may be accounted for by the fact that large cement factories have been established in the State of New Jersey and at Chicago. The Portland cement factory at Henmoor, Hanburg, has become largely interested in the German-American cement works at Chicago, which will shortly commence work." From Denver, Colorado, Mr. Vice-Consul Pearce writes: "The value of the production of stone and marble from the quarries in the State for the year is estimated at 300,000*l*., a decrease from 1898 of 100,000*l*. More stone was used for building purposes than in the previous year, but it was of a cheaper quality and prices were generally lower."

PARIS EXHIBITION.—The Royal Commission, with the co-operation of the British Chamber of Commerce in Paris, has instituted a Commercial Information Office for the use, without charge, of British exhibitors and British visitors. The office is situated in the Royal Pavilion on the Quai d'Orsay, entrance by the side door on the east. A writing-room is provided for the use of exhibitors and visitors, and information on trade matters connected with the Exhibition will be given as far as possible. In the office will be found a comprehensive set of customs tariffs, information as to transport by sea and land, books of reference, directories, &c. Arrangements have been made to receive letters addressed to exhibitors and their agents to care of "Commercial Information Office, British Royal Pavilion, Exposition Universelle de 1900, Quai d'Orsay, Paris." The office will be open daily (Sundays excepted) from 10 to 12 noon and from 2 to 5 p.m.

THE CARPENTERS' COMPANY.—For the Company's annual examination in carpentry and joinery the entries this year have been the most numerous of any but one previous year. The Company continue to insist on the practical work being carried out to the entire satisfaction of the examiners, and on there being no "catch" questions. This is only the fourth time in the twelve or thirteen examinations that have taken place that the examiners have had before them a candidate worthy of being awarded the Company's Gold Medal; this year it is won by Mr. F. Hartnoll. Among the examiners present last week were Professor T. Roger Smith, Mr. John Slater, B.A., Mr. J. Greenwood (President of the Institute of Builders), and Mr. S. Baster, of the Local Government Board (Manual Training Department). The following is a list of the successful candidates arranged in order of merit:—*First Class*:—F. Hartnoll (Gold Medal); J. W. Devonshire and A. Harrington (Silver Medals); F. C. Brown, W. J. Collins, and F. E. Drury (Bronze Medals); F. Tompkins, H. Colliver, Jas. Sandham, H. J. Carter, J. T. Maskill, L. H. Bennett and F. Batten (equal), D. Grant, H. D. White, E. W. F. Martin, E. Groombridge, S. W. Hayward, H. Hey, and A. Elston. *Second Class*:—H. F. Bolton, P. E. Phillips, W. W. Taylor, J. C. Kane, D. W. Thomas, F. B. Self and Thos. Stedman (equal), G. E. Taylor.

SIR THOMAS MORE MEMORIAL WINDOW.—A memorial window to Sir Thomas was unveiled in the Church of St. Lawrence, Jewry, on Friday the 22nd inst. The window, which is about 14 ft. by 7 ft., is on the north side of the baptistry. It shows as the central figure Sir Thomas More in his Chancellor's robes, as he was painted by Holbein. In the centre of the base is a group representing the procession in Chelsea Church in which Sir Thomas More acted as Cross-bearer, about the year 1520; the faces of other figures composing the group being portraits of the donor and his brothers. On either side of this group are pictures of the houses at Bucklersbury and Chelsea, where Sir Thomas was often visited by the King. Sir Thomas More's arms appear on a shield at the top of the window; below this are the arms of the City of London, and at the base is an inscription setting forth that the window is the gift of Mr. H. C. Richards, M.P. for Finsbury, who at one time was a member of the choir at St. Lawrence. The design is by Mr. George Ostrehan, and the window has been carried out by Messrs. Joseph Chater & Sons at their stained glass works, which are in the City of London within the Ward of Tower, and only a short distance from the spot where Sir Thomas More was executed.

CHESTER SEWAGE SCHEME.—An important Local Government Board inquiry was held on the 13th inst. by General H. D. Crozier, R.E., into an application of the Chester Town Council for a loan for the purposes of sewage disposal. The engineer, Major H. Tulloch, C.B., R.E. (past Engineer-in-Chief to the Local Government Board), described the scheme in detail, stating that it was an absolute necessity to pump the sewage. The main sewer would be extended about 50 yards in a straight course, and at the end of that extension the sewage would flow into a sunk well, across the centre of which would be fixed a screen. From the other side of the screen the sewage would be pumped by means of centrifugal pumps into a conduit which would convey it to a long inlet channel to be constructed adjoining the precipitation tanks. From the inlet channel the sewage would be conveyed into circular precipitation tanks, each tank having the capacity of about 68,000 gallons, and as these would be eight in number the total capacity of all the tanks might be taken at nearly 550,000 gallons. During storms the tanks would be capable of dealing with nearly five times the dry weather flow of sewage (1,250,000 gallons); that was giving the sewage two hours' rest in the tanks. The clarified water would flow into a long channel, by the side of which would be placed eight roughing filters having a total area of 888 square yards, whose object was simply to further clarify the sewage before it passed on to the circular aërobic polarite filters, each of which is 50 ft. in diameter with a superficial area of 218 square yards, or a total area of nearly 3,500 square yards. Before being passed over the filters the sewage would flow into a small chamber, from which, when filled to the required height, it would be discharged on to the surface of the filter, the size of the chamber being so adjusted that it would hold sufficient sewage to flood the surface filter to the depth of from 2½ in. to 3 in. The discharges would take place intermittently and automatically. By placing the filters in two tiers it would be quite possible to secure double filtration. In all filters which worked successfully large quantities of carbonic acid gas were evolved by the destruction of the organic matters contained in the sewage. Dr. Carter Bell had analysed for him four different samples of the gas at the bottom of the filter, and it was found that it contained about ten times as much carbonic acid as the atmospheric air. It was evident, therefore, that if they could remove that gas from the bottom of the filter the atmospheric air would rush in from above the surface of the filter to fill the vacuum and would occupy the innumerable interstices between the grains of the filtering materials. The aërobic bacteria would, in fact, be better supplied with oxygen and would perform their functions of destroying the organic matter contained in the sewage in a much more expeditious and satisfactory manner. He proposed to make use of the purified effluent from the upper tier of filters to drive a small turbine and fan which would draw out the carbonic acid gas from the bottom of the filters. With reference to the sludge, each precipitation tank would be fitted at the bottom with a perforated revolving arm, worked by simple gearing on the surface, so that all the sediment on the floor of the tank could be drawn off at will through a pipe brought up to nearly the top of the tank, and could be discharged wherever it might be desired to deliver it on the land. The liquid from the sludge would flow back by gravitation to the pump well, to be pumped and treated again. He was satisfied that by the proposed works a very high standard of purification would be attained.—In answer to Alderman Churton, Major Tulloch said he had no doubt that his scheme was absolutely the best, because they would get a better effluent than by any other system. The scheme was also supported by the City Engineer, who stated that he had come to the conclusion that the Polarite system was the best possible one for Chester.

CAPITAL AND LABOUR.

ABERDEEN PAVIORS.—The Town Council have refused an advance of wages to the street paviors in Aberdeen.

SETTLEMENT OF THE MASONS' STRIKE IN DUNFERMLINE.—The Dunfermline operative masons, who have been on strike for the last five weeks, resumed work on the 20th inst. The men struck work because the masters proposed to reduce wages by one penny per hour, and also to remove certain

restrictions in regard to apprentices. Later, the masters offered a compromise of a halfpenny reduction. This the men struck out against, with the result that the masters have withdrawn their proposal to reduce wages.

LEGAL.

A DISTRICT SURVEYOR'S FEES:

IMPORTANT POINT UNDER THE LONDON BUILDING ACT.

AT the Lambeth Police-court on Tuesday afternoon Mr. Francis gave his decision in the case of Marsland *v.* Wallis. It was a summons by Mr. Ellis Marsland, District Surveyor, against Messrs. G. E. Wallis & Sons, builders, of Maidstone, for the recovery of the sum of 32*l.* 1s. 3d., being fees alleged to be due from the defendants in respect to the erection by them of a school at Grove-vale, Dulwich, for the London School Board. The particulars of the case have already been reported in the *Builder*. The summons was taken out under the London Building Act, 1894, and the District Surveyor claimed to be entitled to the fees in question (which are those provided by that Act) in respect of the supervision by him as District Surveyor of the erection of the school. The defence was founded upon Section 21 of the Act of 1894, which says: "Notwithstanding anything in this Act, any building to be erected upon any lands now belonging to the School Board for London, or over which they have powers of compulsory purchase, or may acquire such powers in the present Session of Parliament, may be erected in accordance with the provisions of any Act in force immediately before the passing of this Act." Under that Section the defendants contended that they were only liable to pay the smaller fees provided by the Metropolitan Building Act of 1855, the site for the school in question having been acquired by the Board prior to the passing of the Act of 1894. The complainant disputed that that Section governed his remuneration as District Surveyor. When the case was now resumed Mr. Francis intimated that he had made up his mind that the Section was purposely put in to exclude the School Board. He said he had come to the conclusion that all that could be recovered by the District Surveyor was the fees under the old Act. Mr. Williams, solicitor for the complainant, said the decision was one which would affect the whole of the District Surveyors of London for an indefinite period, and asked his Worship whether he would state a case for the opinion of the Divisional Court upon the question as to whether the Section included the remuneration of the District Surveyor. Mr. Francis: Upon that point I should be quite happy to state a case. Mr. Williams pointed out that the Board had, roughly, about 500 sites, and that in respect of work which might be done on those sites the Board would pay less than other bodies, such as the London County Council and the Metropolitan Asylums Board. Mr. Francis remarked that he thought that was what the Act of Parliament intended. By consent of both parties Mr. Francis made an order for the payment by the defendants to the District Surveyor of 19*l.* 7s. 6d., being the amount due to him calculated on the basis of the fees provided by the Act of 1855. His Worship said he should not allow any costs on either side.

ACTION BY A QUANTITY SURVEYOR AGAINST A BUILDER.

THE case of Mellor *v.* Britton came before Mr. Justice Bigham in the Queen's Bench Division on the 26th inst.—an action by a quantity surveyor against the defendant, a builder, to recover 41*l.* for preparing quantities. It appeared that a gentleman named Sanderson had entered into a building agreement with the freeholder of certain land at Chelsea to erect thereon flats, which, when completed, were to be leased to Sanderson. He employed the plaintiff to prepare plans and to take out quantities, on which builders were invited to tender. The defendant was amongst the builders who tendered, and his tender, amounting to 28,000*l*, was accepted by the building-owner. The defendant in the usual way, included in his tender the amount of the plaintiff's charges, and in the ordinary course the plaintiff would have been paid by the defendant out of the first instalment of the contract price received by the defendant from the building-owner; but when the first instalment became due it was not paid, and the defendant thereupon entered into an arrangement with Sanderson by which the defendant took over Sanderson's agreement with the freeholder and released him from all claims, present and future, under his contract, but Sanderson was given an option to purchase the building when completed, on paying the defendant the contract price and interest. Up to the present the building had not been completed, and in those circumstances the defendant denied his liability to pay the plaintiff the amount of his charges.

At the conclusion of the arguments of counsel, his Lordship, in giving judgment, held that the plaintiff was entitled to succeed. In the first instance, the plaintiff could call upon the building-owner to pay his charges, but as soon as the latter had entered into a contract with a builder and had put him in a position to pay by providing him with money, the building-owner's liability to the plaintiff came to an end. Then the question was what were the contractural relations between the plaintiff and the defendant? The defendant had undertaken to pay the plaintiff as soon as he himself received his first instalment from the building-owner. That placed on the defendant the obligation to get the first instalment. The defendant was not bound to try and get blood out of a stone, and if he could not get payment from the building-owner, he was under no liability to the plaintiff; but if he could get the money or an equivalent he was liable. A difficulty arose in the present case about the payment of the first instalment, but it was not an insurmountable difficulty, for, having regard to the amount of work which had been done, the building-owner might have raised the money. If proper steps had been taken the building owner would have been able to pay. The defendant, however, for reasons of his own, took from the building-owner an out-and-out assignment of the agreement with the freeholder in full satisfaction of all the defendant's claims under his contract. The position, therefore, was that the defendant had chosen to accept, instead of cash, the assignment of the building agreement, carrying with it the benefit of all the work done up to that point, which far exceeded the plaintiff's claim and also the possibility of future benefits. If the builder chose to vary his relations with the building-owner he might do so, but not so as to prejudicially affect the claim of a third party who had nothing to do with the arrangement. Judgment would, therefore, be entered for the plaintiff with costs.

A stay of execution was refused.

Mr. Bailhache appeared for the plaintiff, and Mr. W. H. Stevenson for the defendant.

RECENT PATENTS:

ABSTRACTS OF PATENTED INVENTIONS.

4,057.—CONSTRUCTION OF HOSPITALS, BARRACKS, COTTAGES, &C.: *J. Jäger.*—The buildings are made of cells that can be carried bodily from place to place; a cell consists of a metal framework whereof the corner up-rights are formed of angle-iron bars, and the intermediate pillars of T-shaped bars, the floors and ceilings being composed of I-shaped bars, together with strengthening stays and struts of flat iron; for the walls are used two layers of cork placed at a short distance apart from one another, and coated with mortar or cement, a floor of wood is laid over cork sheets inserted between the joists, and asphalt is spread over the outer layers of the walls as well as over the inner surfaces of the cork.

4,066.—SLATE MANTELPIECES: *W. J. Lewis.*—The several parts are made so that they may be easily detached and replaced, and be firmly held together with bolts that engage with let-in screw boxes and with nuts, flanges of the solid side pieces press against the edges of the plinth and pilaster, the screw boxes at either side may be affixed upon one plate, let into a long groove, or the screw-boxes can be dispensed with, the bolts being "leaded" in.

4,074.—PARQUETRY BLOCKS FOR FLOORING: *A. Geary.*—The compound blocks are composed of sections which are secured with tongues to two foundation blocks, the latter being covered with some bituminous material, and asphalt or bitumen is laid between the sections; when the blocks are being laid down bitumen or asphalt is applied to their sides with a brush in order to effect a damp-proof joint.

4,086.—MECHANISM FOR TILE PRESSES.—*J. N. Peake.*—Rough bats or tiles are fed to the press, one at a time, by means of a push-plate to which a reciprocating motion is given; after it has been pressed the tile is removed over rollers by another roller which is covered with moleskin, and acts by means of a rod, a lever, and a tappet-rod with a lever; when the roller is moved forwards its pinion is thrown into gear with a toothed driving wheel; upon the tappet-rod's return stroke a spring or weight automatically moves the lever together with the roller backwards out of action; for driving the machine is used a lantern-pinion, whose wooden teeth or pins will break under any abnormal strain.

4,095.—HOISTS AND CRANES: *J. Price.*—The pivoted shear-legs meet at their head on which are guide-pulleys for the lifting rope, another rope that is passed round a pulley hung upon the jib provides for out and in board luffing. When the load is lifted the crane's head remains in position until it is raised by the engagement of a stop, and when it begins to swing about the axis, another stop engages with a slotted plate and so locks the load and head together. When the legs swing over, the stop becomes disengaged as it enters an enlargement of the slot, and the load can be lowered forthwith.

4,199.—AN APPLIANCE FOR VENTILATORS AND FANLIGHTS: *R. F. Blackett.*—To the frame and window are fastened brackets which carry pulleys for the pulling-cords, whose ends are secured to the bracket upon the window and to a spring-bolt (in that bracket) which presses against the notched stay-rod. The stay-rod has two curved arms between which the cord passes freely. As the cord is freed a pin of the bracket engages with one of the notches cut in the stay-rod. When one wishes to open or close the window one pulls back the bolt out of a recess in the stay-rod.

4,237.—A PLASTIC MATERIAL FOR DECORATIVE, INSULATING, AND OTHER PURPOSES: *J. E. Thornton and C. F. S. Rothwell.*—A stiff or flexible material is made by kneading aluminium or zinc salts of fatty and resinous acids at a temperature of from 35 deg. to 50 deg. C., with a volatile solvent, or with benzolene, or coal-tar naphtha, to which dyes or pigments may be added. The admixture is then moulded into shapes, or spread in sheets, and dried at 40 deg. to 55 deg. C. in a current of warmed air.

4,252.—BLAST FURNACES FOR LIME, CEMENT, &C.: *P. Runge.*—The material and the fuel are fed in alternating layers, through openings and channels into a preparatory heating chamber, as the former slowly falls into the chamber beneath, a water-jacket prevents it from adhering to the furnace's walls. When the material is duly burned the water is caused to flow over the jacket's upper edge into the furnace, where it quenches the sintered cement. The furnace's upper part is widened out in order that its sides may not be damaged by the water, and that the fall of the materials may be facilitated.

4,307.—A FASTENING FOR WINDOWS: *J. Robertson.*—Upon the outer meeting-bar is a socket with which engages a spring bolt which is mounted in a casing upon the inner meeting-bar. A gravity-catch holds the bolt when the window is open, but when it is closed a projection that meets the socket's top raises the bolt. For casements a spring controls the gravity-catch, or the bolt's striking edge may be bevelled, in which form no gravity-catch will be needed.

4,317.—A VALVE JOINT: *R. S. Lloyd and J. R. Davies.*—The inventors provide for the separate rotation of the two parts that are coupled together by means of a contrivance which they describe as being more particularly adapted for valve spindles; they fashion the spindle with an annular recess having one side curved and the other side straight, and with a recess in its middle, the valve having an annular ridge and a central conical plug; when the two parts are adjusted together the ridges are forced into the recesses in such a manner that whilst they can be turned independently the two parts become locked.

4,328.—FLOORS OF PARQUETRY WORK.: *J. F. Ebner.*—Triangular metal tongues are devised for holding the blocks together, the tongues being placed within recesses or saw-cuts made in the corners of the blocks; for taking mastic cement, &c., under-cut grooves are cut in the lower edges of the blocks.

4,380.—LIFT AND BALL-AND-FLOAT VALVES: *J. E. Thomas.*—For a ball-and-float valve, a ball—made for preference of glass—rests upon the float arm's top and presses against a seating; the arm of the float is pivoted on to the nozzle; when the float falls, the ball leaves its seating, and water is admitted; when the float rises water is excluded by the pressure of the ball upon its seating. For a draw-off tap a ball after the kind described is provided with a seating against which it may be forced with a screwed spindle.

4,389.—MECHANISM FOR WINDOWS, DOORS, LIFTING APPARATUS, &C.: *R. Adams.*—For a clutch or ratchet-and-pawl appliance a rack is caused to gear with a pinion which when freed becomes locked by a pawl; upon the pinion's axis turns, to a limited degree, a cam, star, or ratchet-wheel, which impinges upon a roller or projection that it may lift the pawl out of action when a key, which is put into sockets in the pinion and cam, turns the pinion in a direction opposite to that of the hands of a clock, the cam's accidental motion through friction with the pinion or other cause being obviated by means of a spring brake; the operating rod is lifted by the pinion as it freely turns forwards. In one of various adaptations of the apparatus a wedge-shaped slotted plate lifts the pawl out of action, to be pressed inwards by the winding-key. In another the key is employed to press backwards out of action a spring pawl that engages with the teeth of the pinion; or a double-crown wheel may be used for locking the pinion after withdrawal of the key, the wheel having deep teeth on its one side, which always engage with those of the pinion and shorter teeth on its other side, which a coiled spring (fixed between the crown wheel and the pinion), normally causes to engage with teeth upon the casing.

4,400.—PREPARATIONS FOR SURFACES OF STONE, &C: *C. L. Prentice.*—An indurating or dressing preparation for stone, marble, granite, and similar surfaces is made by mixing alcohol with precipitated chalk; a cleansing preparation, being free from acid, is made of an admixture of ammonia, ether, chloroform, and Cologne spirits.

4,410.—METALLIC HOLLOW SHAFTS, COLUMNS, PILES, &C.: *S. Vanstone and B. McGuinness.*—For making hollow shafts or tubes pieces of steel or iron are fitted together lengthwise, and are then welded so as to form the articles required; in the case of a hollow shaft or pile the opposite sections are made in one and the same form, rivetted together, then raised to a welding heat and passed through grooved rollers with a mandrel in the bores.

4,412.—WINDOW SASHES: *J. C. Fleming.*—In order to prevent the condensation of moisture and

the conduction of heat; double panes are adopted for the glazing of the sashes, the outer pane's upper part being mounted upon a hinged frame; a roller-blind is put between the panes; the cord passes through between rollers upon the bottom rail. The sash may also be caused to slide into an upper glazed box or casing having a hinged frame, and a weather-tight joint is made with strips of india-rubber attached to the casing. The invention appears to be devised more particularly for use for advertising purposes.

4,416.—SUPPLY OF ELECTRICITY: *B. G. Lamme.*—For direct-current systems the generator is wound and connected to the circuit in such a manner as to supply the current required at points both near and remote. Different fractions of the current, as supplied to the sets of translating appliances, are made to pass through the generator's coils. In one form of the invention two of three bus bars are connected by resistances which, again, are connected to the translating devices at intermediate points, or else the translating devices are connected to different points, one resistance only being used.

4,418.—HEATING AND VENTILATION OF BUILDINGS: *F. W. Lönnbeck.*—The apparatus has a fire-place, into which vitiated air is withdrawn, whilst the warming apparatus impels fresh air from without into the rooms. The products of combustion escape into the chimney either directly or through flues beneath a damper; holes are made in the flue partitions for tubes that join the hot-air and cold-air chambers to which dampers are fitted, a conduit conveys the collected vitiated air to the foul-air chamber, thus feeding the fire therewith. Warmed air is passed to apertures in the room floors, whilst vitiated air is drawn away from beneath the ceilings. The apparatus extends to other forms, by one of which the foul air within the main conductor is divided into two currents, whereof one is impelled in front of, and the other over, the ashpit, and the two air-chambers are joined so as to form one chamber. An ordinary kitchen range will serve for heating the apparatus.

4,423.—METAL FENCES: *D. Rowell.*—The metal picket fencing is formed of members, set vertically, which are passed through slots in the horizontal members attached to the standards, the former portions of the fencing are locked with bars that pass through them, and are placed beneath and above the top and bottom horizontal members.

MEETINGS.

SATURDAY, JUNE 30.

St. Paul's Ecclesiological Society.—Visit to Windsor. Conducted by the Rev. Canon Dalton, F.S.A. Meet in the nave of St. George's at the conclusion of Evensong. 3.40 p.m.

London and Provincial Builders' Foremen's Association (Memorial Hall, Farringdon-street).—Monthly meeting. 7.30 p.m.

WEDNESDAY, JULY 4.

Royal Archæological Institute.—(1) Professor B. Lewis, M.A., F.S.A., on "Roman Antiquities of Baden (Switzerland) and Bregenz"; (2) Mr. J. Lewis André, F.S.A., on "St. George in Art, Legend, Ceremonial, &c." 4 p.m.

Builders' Foremen and Clerks of Works Institution.—Ordinary meeting of the members. 8 p.m.

SATURDAY, JULY 7.

Northern Architectural Association.—Annual excursion.—Berwick, &c.

SOME RECENT SALES OF PROPERTY:

ESTATE EXCHANGE REPORT.

June 13.—By BELCHER, ADKIN, & BELCHER (at Wantage).

Challow, Berks.—Cornhill Farm, 225 a. 0 r. 14 p., f. £4,700

By Messrs. SPELMAN (at Great Yarmouth).

Bradwell, Suffolk.—A freehold farm, 180 a. 3 r. 39 p. 4,500

Repps-cum-Bastwick, Norfolk.—A dealer's occupation, 7 a. 3 r. 31 p., f. and c. 470

Nine enclosures of land, 18 a. 3 r. 2 p., f. and c. 848

June 14.—By BAXTER, PAYNE, & LEPPER (at Bromley).

Bromley, Kent.—Shawfield Park, two plots of land, f. 220

62, Homesdale-rd., u.t. 80 yrs., g.r. 5*l.* 185

By STIMSON & SONS.

Peckham.—30 to 36 (even), Rosemary-rd., u.t. 66 yrs., g.r. 10*l.* 1,050

25 to 31 (odd), Rosemary-rd., u.t. 24 yrs., g.r. 10*l.* 620

122, Sumner-rd., and 11 and 12, Scipio-st., u.t. 62 yrs., g.r. 10*l.* 620

1, 2, and 3, Scipio-st., u.t. 63 yrs., g.r. 10*l.* 820

10 to 14, Garnies-st., u.t. 63 yrs., g.r. 10*l.* 1,250

14, 15, and 16, Nutt-st., also Rose Cottage, u.t. 63 yrs., g.r. 7*l.* 10*s.* 550

44 and 46, Sedgmoor-pl., u.t. 32½ yrs., g.r. 2*l.* 13*s.* 4*d.* 385

119, Bellenden-rd., u.t. 75½ yrs., g.r. 6*l.*, r. 29*l.* 350

Hall-rd., Crystal Villa, f. 290

1 and 2, Primrose Cottages, f. 640

1 to 4, Swiss Villas, f. 1,140

1 to 6, Marlborough Villas, u.t. 87 yrs., g.r. 12*l.* 1,220

7 and 8, Marlborough Villas, f. 540

9, Marlborough Villas, part f. and part u.t. 90 yrs., g.r. 33*l.* 620

1 to 4, Cambridge Villas, f. 1,030

1 to 4, Oxford Villas, f. 985

1A, and 6 Belmont Villas, f. 650

1 to 5, Belmont Villas, u.t. 90 and 94 yrs., g.r. 12*l.* 5*s.* £1,075

13 to 23 (odd), Pilkington-rd., and 11, Goodman-rd., u.t. 65 yrs., g.r. 4*l.* 5*s.* 9*d.*, r. 228*l.* 14*s.*.. 2,150

By STEPHENSON & ALEXANDER (at Cardiff).

Cardiff, Glamorgan.—Tyndall-st., All Saint's Church, area 1,293 yds., f. (building site)..... 1,400

High-st., &c., f.g.r. 135*l.*, reversion in 85 yrs. .. 3,460

109 and 111, Castle-rd., u.t. 55 yrs., g.r. 4*l.* 16*s.* 600

June 15.—By NOCK & JOSELAND (at Kidderminster).

Astley, &c., Worcester.—Seed Green Estate, 280 a. 2 r. 28 p., f. 5,850

By R. BURR & SONS.

Clerkenwell.—Mount Pleasant, the "Old Cheshire Cheese" p.-h., and shop adjoining, f., r. 90*l.* 2,230

65 and 71, Mount Pleasant, f., r. 65*l.* 1,205

67 and 69, Mount Pleasant, f., r. 90*l.* 2,000

Marylebone.—Church-st., the "Lord High Admiral" p.-h., i.g.r. 25*l.*, u.t. 21½ yrs., g.r. nil 370

Church-st., i.g.r. 32*l.*, u.t. 21½ yrs., g.r. nil 350

Carlisle-st., i.g.r. 20*l.*, u.t. 21 yrs., g.r. nil 210

Little Carlisle-st., &c., i.g.r. 23*l.* 2*s.*, u.t. 14¾ yrs., g.r. nil 170

Lisson Grove, i.g.r.s 21*l.*, u.t. 14¾ yrs., g.r. nil 195

Queen-st., i.g.r.s 25*l.* 4*s.*, u.t. 6¼ yrs., g.r. nil .. 190

22, Lower Seymour-st., u.t. 22½ yrs., g.r. 25*l.*, r. 150*l.* 1,255

16, Devonshire-st., and 1, Devonshire-pl., u.t. 14¼ yrs., g.r. 11*l.* 180

23, Edgware-rd., u.t. 8¼ yrs., g.r. 12*l.*, r. 120*l.* 510

By LEOPOLD FARMER.

Tottenham Court-rd.—No. 61, f., r. 110*l.* 3,580

Hampstead.—118, Mill-lane, f., r. 40*l.* 715

By FISHER, STANHOPE, & DRAKE.

Clapton.—126 to 132 (even), Rushmore-rd., u.t. 99 yrs., g.r. 19*l.*, r. 106*l.* 1,190

259, Evering-rd., u.t. 74½ yrs., g.r. 8*l.*, r. 55*l.* .. 750

Stoke Newington.—11, Stoke Newington-rd., u.t. 29 yrs., g.r. 16*l.*, r. 70*l.* 425

By HIBBARD & WHITTINGHAM.

Lee.—95, 105, 117, and 119, High-rd., u.t. 52 yrs., g.r. 10*l.*, r. 190*l.* 1,840

1 to 6, 8 and 9, Marlborough-rd., u.t. 52 yrs., g.r. 34*l.*, r. 440*l.* 3,845

Belmont Park, The Limes, u.t. 52 yrs., g.r. 6*l.*, r. 75*l.* 700

14, Brandram-rd., u.t. 52 yrs., g.r. 5*l.*, r. 95*l.* .. 710

By KELF & STURT.

Walthamstow.—19 and 21, Eastfield-rd., u.t. 86 yrs., g.r. 9*l.*, r. 56*l.* 570

By MOSS & JAMESON.

Clapham.—35, Lyham-rd., u.t. 83 yrs., g.r. 8*l.*, r. 36*l.* 295

By JOSEPH STOWER.

New Cross.—73, Pepys-rd., u.t. 70 yrs., g.r. 7*l.* 7*s.*, r. 45*l.* 620

Battersea.—5, Latchmere-st., u.t. 65 yrs., g.r. 5*l.* 5*s.* 230

By W. SUTHERLAND.

Shepherd's Bush.—27, Poplar-grove, u.t. 76¼ yrs., g.r. 6*l.*, r. 44*l.* 485

Brondesbury.—17, Iverson-rd., f., r. 45*l.* 750

June 16.—By FENN & Co. (at Colchester).

Little Bromley, Essex.—Braham Hall Farm, 135 a. 2 r., f. and c. 2,050

Weeley, Essex.—Enclosure of land, 7 a. 0 r. 26 p., f. 250

Two enclosures, 10 a. 0 r. 36 p., f. and c. 480

June 18.—By FRANKLIN, GALE, & NEWTON.

Wallingford, Berks.—The Rush Court Estate, 384 a. 2 r. 5 p., f. 17,500

Benson-on-Thames, Oxon.—Blenheim House, f.. 1,500

Ipsden, &c., Oxon.—The Homer Estate, 238 a. 0 r. 8 p., f. 1,000

By HUNTER & HUNTER.

Kensington.—9, 16, and 27, Holland Villas-rd., f., r. 395*l.* 7,700

2, 4, 12, and 14, Addison-gardens, f., r. 365*l.* .. 6,090

By W. R. NICHOLAS & Co.

Wick, Gloucester.—Wick Court, and 8 a. 2 r. 3 p., f. 2,500

By A. H. TURNER & Co.

Biggleswade, Beds.—Stratton-st., Stratton House 3¼ a., f. 2,000

By RANDALL, COX, & BAKER.

Finchley.—High-rd., Florenceville and Heatherdale, u.t. 76 yrs., g.r. 19*l.*, r. 156*l.* 1,725

By WOODS & SNELLING.

Hackney.—21 and 23, Tower-st., u.t. 45 yrs., g.r. nil, r. 65*l.* 820

149, Richmond-rd., u.t. 45 yrs., g.r. nil, r. 40*l.*.. 510

Camberwell.—92 to 100 (even), Picton-st., f. 1,345

By DANN & LUCAS.

Dartford, Kent.—16 to 22 (even), Lowfield-st., f., r. 116*l.* 4,040

47, 49, and 51, Spital-st., f., r. 74*l.* 975

118 to 124 (even), Hythe-st., f. 200

21 to 27 (odd), 34 to 42 (even), St. Albans-rd., f. 1,580

1 to 6, Bridge-court, f. 250

11, 13, and 24, Tower-rd., u.t. 89 yrs., g.r. 11*l.* 7*s.* 6*d.*, r. 75*l.* 935

Hawley, Kent.—Shire Hall-rd., two freehold cottages 350

1 and 2, Alvin Cottages, f. 480

1 and 2, Avondale Cottages, f. 510

Stone, Kent.—1, Elm-rd., u.t. 87 yrs., g.r. 2*l.* 10*s.* 180

Erith, Kent.—44 to 47, Manor-rd., u.t. 64½ yrs., g.r. 7*l.* 15*s.* 560

By W. W. READ & Co.

Hammersmith.—1 to 5, Young's Corner, u.t. 84 yrs., g.r. 70*l.*, r. 330*l.* 3,700

Gunnersbury.—32, Oxford-rd., u.t. 66½ yrs., g.r. 7*l.*, r. 58*l.* 610

Chiswick.—445, High-rd., u.t. 49 yrs., g.r. 10*l.*, r. 50*l.* 445

Brentford, Middlesex.—High-st., a plot of land, c. 160

Twickenham.—Beaconsfield-rd., three plots of building land, f. 225

Tulse Hill.—42, 43, 56, 61, 62, 63, and 65, Leigham-vale, u.t. 87, 90, and 92 yrs., g.r. 48*l.* 10*s.*, r. 289*l.* 2,915

June 19.—By DEBENHAM, TEWSON, & Co.

Spitalfields.—10, Brushfield-st., f., r. 96*l.* 17*s.* 1,180

Holloway.—390 and 392, York-rd., u.t. 48½ yrs., g.r 5*l.*, e.r. 130*l.* 1,450

Bayswater.—Queen's-gardens, i.g.r. 106*l.*, u.t. 50 yrs., g.r. 26*l.* 1,680

Pinner, Middlesex.—Uxbridge-rd., &c., a freehold paddock, 1 a. 3 r. 30 p. 1,430

Shortlands, Kent.—3, Kingswood-rd., and nearly 1 a., f. £2,500

West Molesey, Surrey.—Walton-rd., Sutton Lodge, and 9¼ a. f. 2,400

By HARLAND & SON.

Potters Bar, Middlesex.—High-rd., a freehold house, shop, and cottage, r. 50*l.* 970

Baker-street, a building estate, 29 a. 0 r. 31 p., f. 2,900

By G. HEAD & Co.

Marylebone.—49 and 52, Union-st., also l.g.r. 30*l.*, u.t. 7¾ yrs., g.r. 5*l.* 1,200

Fulham.—Parsons Green-lane, f.g.r. 15*l.*, reversion in 13⅓ yrs. 1,200

Paddington.—42, Pindock-mews, u.t. 73¼ yrs., g.r. 2*l.* 830

15, 16, and 17, Pindock-mews, u.t. 73¼ yrs., g.r. 2*l.* 1,200

By HAMPTON & SONS.

South Kensington.—38, Harrington-gdns.; and 13, Colbeck-mews, u.t. 82 yrs., g.r. 4*l.* 4,100

Putney Hill.—Carlton-rd., Bramleigh, u.t. 64 yrs., g.r. 30*l.*, r. 175*l.* 1,900

By NOTLEY & Co.

Tottenham Court-rd.—15, Goodge-st., c., r. 80*l.*.. 1,700

By E. PENNINGTON.

Putney Common.—Roselea, u.t. 80½ yrs., g.r. 12*l.*, r. 60*l.* 800

Twickenham, Middlesex.—Gould-rd., a plot of building land, f. 120

Mereway-rd., f.g.r.'s 44*l.* 2*s.*, reversion in 98½ yrs. 1,050

By RUTLEY, SON, & VINE.

St. John's Wood.—28, St. John's Wood-ter.; and 43, Charles-lane, u.t. 19½ yrs., g.r. 6*l.*, r. 58*l.* 4*s.* 250

St. Pancras.—177, Euston-rd., f., r. 80*l.* 1,345

By W. N. WILLOUGHBY.

Dulwich.—Thurlow Park-rd., West Bank Villa, f., e.r. 75*l.* 950

By BARBER & SON (at Dawley).

Dawley, Salop.—The Dawley Estate, area about 290 a., f. (in lots) 6,087

June 20.—By ELSWORTH & KNIGHTON.

South Kensington.—4, Sydney-pl., u.t. 30 yrs., g.r. 5*l.*, r. 90*l.* 1,240

By FURBER, PRICE, & FURBER.

Paddington..51, Brindley-st., u.t. 44½ yrs., g.r. 5*l.*, e.r. 32*l.* 240

By RAMSAY, WAINWRIGHT, & Co.

Finsbury Park.—105, Fonthill-rd., u.t. 72 yrs., g.r. 10*l.* 10*s.*, r. 38*l.* 330

Holloway.—18, Dalmeny-rd., u.t. 66¾ yrs., g.r. 8*l.*, r. 45*l.* 515

Contractions used in these lists.—F.g.r. for freehold ground-rent; l.g.r. for leasehold ground-rent; i.g.r. for improved ground-rent; g.r. for ground-rent; r. for rent; f. for freehold; c. for copyhold; l. for leasehold; e.r. for estimated rental; u.t. for unexpired term; p.a. for per annum; yrs. for years; st. for street; rd. for road; sq. for square; pl. for place; ter. for terrace; cres. for crescent; yd. for yard.

PRICES CURRENT OF MATERIALS.

*** Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

WOOD.*

Per Petersburg standard hundred.

	£ s. d.	£ s. d.
White Sea: first yellow deals	17 15 0	22 10 0
Second do.	15 15 0	18 0 0
Third do.	12 15 0	14 10 0
Battens, 40*s.*, 30*s.*, and 15*s.* less respectively.		
Petersburg: first yellow deals	15 0 0	17 15 0
Second do.	12 10 0	13 15 0
Battens, 30*s.* and 20*s.* less respectively.		
Petersburg, white deals	12 0 0	14 15 0
Do. white battens	10 15 0	12 0 0
Riga, white deals	9 15 0	11 10 0
Swedish mixed yellow deals	16 5 0	21 0 0
,, Third do.	14 10 0	16 15 0
,, Fourth do.	13 0 0	14 5 0
,, Fifth do.	12 0 0	13 5 0
Battens, 30*s.*, 20*s.*, and 10*s.* less respectively.		
Whitewood, 10 to 20 per cent. less.		
Finnish unsorted yellow deals	11 10 0	12 5 0
Battens, 10*s.* and 5*s.* less respectively.		
Whitewood, 5 to 10 per cent. less.		
Norwegian second yellow battens	8 10 0	9 0 0
Third do.	8 0 0	8 15 0
Fourth do.	7 15 0	8 5 0
Whitewood, 10*s.* less.		
Danzig, Crown Deck deals, per 40 ft. 3 in.	0 15 0	1 5 0
Brack	0 12 0	1 0 0
St. Lawrence Pine deals, &c., per P.S.H.:—		
1st, Bright and Dry, regular sizes	21 15 0	28 15 0
,, ,, oddments	15 5 0	22 15 0
2nd ,, regular sizes	17 5 0	19 15 0
,, ,, oddments	11 15 0	16 5 0
3rd, ,, regular sizes	11 0 0	12 0 0
,, ,, oddments	9 10 0	10 10 0
4th ,, regular sizes	10 0 0	11 0 0
,, ,, oddments	9 0 0	10 0 0
St. Lawrence Spruce deals, &c.		
First, regular sizes	12 15 0	15 0 0
Second ,,	10 10 0	11 0 0
Third ,,	10 5 0	10 10 0
Fourth ,,	9 15 0	10 5 0
Oddments and battens at 20*s.*, 10*s.*, 7*s.* 6*d.*, and 5*s.* less respectively.		
New Brunswick Spruce deals, &c.	10 0 0	11 15 0
Oddments, battens, and fourths	9 10 0	10 0 0
United States pitch pine planks and boards	11 0 0	15 0 0

* The prices named are for the wood as imported and landed in the docks. Ten per cent., approximately, should be added in order to arrive at the current trade prices.

COMPETITIONS, CONTRACTS, AND PUBLIC APPOINTMENTS.

(For some Contracts, &c., still open, but not included in this List, see previous issues.)

COMPETITIONS.

Nature of Work.	By whom Advertised.	Premiums.	Designs to be delivered
*Cemetery	Cheadle and Gatley U.D.C.	.....	July 31

CONTRACTS.

Nature of Work or Materials.	By whom Required.	Forms of Tender, &c., Supplied by	Tenders to be delivered
Steel Girder Bridge	Bristol Corporation	T. H. Yabbicom, Civil Engineer, 63, Queen-square, Bristol	July 3
Fire Alarm Posts, &c.	Tottenham U.D.C.	Clerk, 712, High-road, Tottenham	do.
Drains and Sewers, Wyndham-road, &c.	Dover Town Council	H. E. Stilgoe, Civil Engineer, Town Hall, Dover	do.
Drainage Works, Burraton	St. Germans R.D.C.	S. W. Jenkin & Son, Engineers, Liskeard, Cornwall	July 4
Purbeck Kerbing, &c., near Bournemouth	Winton U.D.C.	W. T. Streather, Surv., Council Chambers, Winton, Bournemouth	do.
Road Works, near Doncaster	Balby-with-Hexthorpe U.D.C.	G. Gledhill, Surveyor, High-road, Balby	do.
Electrical Plant, &c.	Limerick City Council	J. Enright, 47, Victoria-street, S.W.	do.
Bacteria Beds, Cottages, &c.	Uxbridge R.D.C.	Bailey-Denton & Co., Engineers, Palace Chambers, Westminster	July 5
Alterations to Schools, Spennymoor, co. Durham	Tudhoe (U.D.) School Board	Mr. Rogers, Surveyor, Silver-street, Spennymoor	do.
Police Station, North Ormesby, Middlesbrough		County Surveyor, Northallerton	July 7
Grit Rock Setts (1,300 tons)	Swinton & Pendlebury U.D.C.	H. Entwisle, Surveyor, Council Offices, Swinton, nr. Manchester	do.
*Terminal & Saddle Boiler	Frome Guardians		July 9
Alterations to Asylum, Armagh	Visitors	J. C. Boyle, The Mall, Armagh	do.
Levelling, Kerbing, &c., Oak-street	Quarry Bank (Staffs.) U.D.C.	A. Homfray, High-street, Cradley Heath	do.
Service Reservoir	Swansea Corporation	R. H. Wyrill, Engineer, Guildhall, Swansea	do.
*Brick Transformer Stations	Beckenham U.D.C.	See Advertisement	do.
Town Hall Extension, &c.	Shoreditch Vestry	Clerk, Town Hall, Old-street, E.C.	do.
Drainage, Kerbing, Channelling, &c.	Hendon U.D.C.	Engineer, The Burroughs, Hendon, N.W.	do.
Pulling Down and Clearing Buildings	Central Electric Supply Co., Ltd.	F. J. Walker, General Manager, 19, Carnaby-street, W.	do.
*Lock-up at Stanstead Abbotts, Herts.	Joint Committee	County Surveyor, 41, Parliament-street, S.W.	do.
Coal and Coke	West Ham Council	Borough Engineer, Town Hall, West Ham, E.	July 10
Sinking Well, &c.	Coalville U.D.C.	J. B. Everard, Engineer, 6, Millstone-lane, Leicester	do.
Laundry, Clifton	Brighouse Joint Hospital Board	Sharpe & Waller, Architects, 32, Bradford-road, Brighouse	do.
Cornish Boiler, &c.	Mountain Ash (Glam.) U.D.C.	J. Williams, Town Hall, Mountain Ash	do.
Footbridge, Bexley Heath, Kent	Bexley U.D.C.	W. T. Howse, Surveyor, Public Offices, Bexley Heath	do.
Garden and Park Seats	Willesden District Council	Engineer, Public Offices, Dyne-road, Kilburn, N.W.	do.
*Fence and Gates at Gladstone Park	do.	do.	do.
*New Roads and Sewers at Gladstone Park	do.	do.	do.
*Road Making and Paving Works	do.	do.	do.
Station at Newmarket	Great Eastern Railway Company	Engineer, Liverpool Street Station	July 13
*Bridge	Hull Corporation	City Engineer, Town Hall, Hull	do.
*Service Reservoir	Tees Valley Water Board	See Advertisement	July 14
*Police Cottages at Farnborough	Southampton County Council	County Surveyor, The Castle, Winchester	do.
Electric Lighting Plant, &c., Harton	South Shields Guardians	J. W. Coulson, Union Offices, South Shields	do.
Villa, Donaghadee, co. Down		W. J. Fennell, Architect, Scottish Provident Buildings, Belfast	do.
Alterations to Fire Station, High-street	Wimbledon U.D.C.	Surveyor, Council Offices, The Broadway, Wimbledon	July 16
*Boiler House, Chimney Shaft, &c.	Watford Guardians	C. P. Ayres, 14a, High-street, Watford	July 17
*Making-up Washington-road, Cheam	Epsom R.D.C.	T. E. Ware, Surveyor, Waterloo-road, Epsom	do.
*New Car Shed	Birkenhead Corporation	Borough Engineer, Town Hall, Birkenhead	July 24
*New Market on the Fairground	Bury Corp. Markets Committee	See Advertisement	July 26
*Casual Wards	Tichfield Union	See Advertisement	July 27
*Law Courts and Town Hall	Cardiff Corporation	Town Clerk, Town Hall, Cardiff	July 30
*New Asylum Buildings, Canterbury	Visiting Committee	W. J. Jennings, Architect, 4, St. Margaret's-street, Canterbury	Aug. 2
*New Wards, &c., at Victoria Hospital	City of Winchester	Colson, Farrow, & Nisbett, Architects, 45, Jewry-st., Winchester	No date
*Gravel	Glasgow International Exhibition		do.
Six Cottages, Mile End, Waterfoot, Lancs.	Mr. R. Barcroft	S. Taylor, Architect, Baltic, Waterfoot	do.
Additions to Broughton House, Broughton-in-Furness	Dr. Fawcitt	J. W. Grundy & Son, Architects, Central Buildings, Ulverston	do.
Residence, Crosshaven, Ireland		A. Hill, Architect, 22, George's-street, Cork	do.
Seven Houses, West-lane, Keighley		J. Haggas, Architect, North-street, Keighley	do.
Church and School, Saddlebow-road, King's Lynn		L. F. Eagleton, Architect, Bank-chambers, King's Lynn	do.
Brickwork (2,000 yards), St. Annes-on-Sea		J. M. Fletcher, Limited, Clare-street, Blackpool	do.
Houses, Stocksfield-on-Tyne	Bromley & Bywell (U.D.) Sch. Bd.	J. W. Rounthwaite, Architect, 13, Mosley-st., Newcastle-on-Tyne	do.
Rebuilding Central Hall of Varieties, North Shields	Durham Licensed Victuallers' Synd.	W. Hope and J. C. Maxwell, Architects, Trinity Bldgs., Newcastle	do.
Alterations, &c., to Inn, Lombard-street, Belfast	Mr. J. G. Nelson	J. J. M'Donnell, Architect, 27, Chichester-street, Belfast	do.

PUBLIC APPOINTMENTS.

Nature of Appointment.	By whom Advertised.	Salary.	Application to be in
*Clerk of Works	Woolwich Union	3*l.* 10*s.* per week	July 3
*Junior Assistant	Maidstone Corporation	60*l.* per annum	July 9
*Assistant Sanitary Inspector	Willesden U.D.C.	100*l.* per annum	July 10
*Clerk of Works	Portslade Industrial School	4*l.* 10*s.* per week	July 14

Those marked with an asterisk (*) are advertised in this Number. *Competitions, p. iv. Contracts, pp. iv. vi. viii. x. & xxi. Public Appointments, pp. xviii. & xxi.*

PRICES CURRENT *(Continued)*.

	£ s. d.	£ s. d.
Prepared Boards, per square		
1¼ by 6½ and 7 in. 1st yellow	11 6	16 6
,, ,, and ,,	11 0	13 6
1 by 6½ and 7 in. 1st ,,	10 6	12 6
,, ,, ,, white	9 6	10 6
,, ,, and yellow	9 6	11 6
,, ,, ,, white	8 6	9 6
¾ by 6½ & 7 in. 1st & 2nd yellow	8 6	9 6
,, ,, ,, white	8 0	9 0
¾ by 6½ and 7 in. 1st yellow and white (grooved, tongued, and beaded)	9 0	10 0
¾ by 6½ and 7 in. 2nd yellow and white (ditto)	8 0	9 0
¾ by 6½ and 7 in. 1st yellow and white (ditto)	7 0	8 0
¾ by 6½ and 7 in. 2nd yellow and white (ditto)	6 6	7 6

Narrower widths at 10 per cent. less. 3rd quality at 15 per cent. less than 2nd.

PRICES CURRENT *(Continued)*.

	£ s. d.	£ s. d.
Danzig and Memel Fir Timber— per load		
Best middling	3 12 0	3 15 0
Good middling and Second	3 0 0	3 5 0
Common middling	2 15 0	3 0 0
Undersized	2 15 0	3 0 0
Swedish and Norwegian Balks	2 5 0	2 10 0
Baltic Oak Timber—		
Danzig and Stettin—Large	4 5 0	6 0 0
Small	3 12 6	4 10 0
Quebec Timber per load		
Yellow Pine	5 5 0	6 15 0
Oak	4 0 0	6 0 0
Elm	4 0 0	4 5 0
Ash	3 5 0	4 0 0
Birch	3 12 6	6 0 0
New Brunswick, &c., Birch	3 7 6	4 5 0
American Pitch Pine Timber	2 17 6	4 5 0
Wainscot, per log, 28 cubic ft.—		
Crown (Eng. & Dutch) nominal	3 0 0	4 0 0
Brack nominal	2 7 6	3 0 0

PRICES CURRENT *(Continued)*.

	£ s. d.	£ s. d.
Lathwood, per cubic fathom—		
Petersburg	4 0 0	6 10 0
Riga and Danzig	4 10 0	5 10 0
Norway Poles, per ft. run	0 0 1	0 0 1½
Oak Staves, per mille full size pipe		
Memel, Crown	220 0 0	230 0 0
Brack	190 0 0	200 0 0
Danzig	165 0 0	175 0 0
Bosnia, single Barrel (nominal)	28 0 0	30 0 0
United States, Pipe	37 10 0	45 0 0
Hogshead, extra heavy and double extra	30 0 0	35 0 0
Indian Teake per load	10 10 0	16 0 0
British Guiana Greenheart	0 0 0	8 0 0
Mahogany, per foot superficial—		
Honduras, cargo average	0 0 4½	0 0 5½
Nicaragua, do.	0 0 4½	0 0 5½
Tabasco, do.	0 0 4½	0 0 6
Mexican, do.	0 0 4	0 0 4½
Panama, do.	0 0 3½	0 0 4
African, do.	0 0 3½	0 0 5

PRICES CURRENT (*Continued*).

	£ s. d.	£ s. d.
Cuba, do	0 0 6	0 0 8
St. Domingo, do.	0 0 5	0 0 7½
Do. Curls (good to prime)	0 0 9	0 1 3
Walnut. American (logs)	0 3 0	0 5 0
Do. do. (planks and boards)	0 5 0	0 7 6
Italian, per foot superficial	0 0 3	0 0 7½
Black Sea, per ton	6 0 0	12 0 0
Satin Walnut (logs) per foot cube	0 1 0	0 1 6
(planks and boards)	0 1 9	0 3 0
Sequoia (Californian redwood), per foot cube	0 1 9	0 2 0
Whitewood, American (logs)	0 1 4	0 1 9
" " (planks and boards)	0 1 9	0 2 9
Quartered oak " " "	0 2 3	0 4 0
Kauri pine (logs)	0 1 9	0 2 0
" " (planks)	0 2 3	0 2 9
Jarrah (planks)	0 2 0	0 2 3
Lancewood spars each, fresh and large	0 5 0	0 7 0
Lancewood spars, ordinary to fair	0 3 0	0 4 0
Degame spars	0 8 0	0 10 0

METALS.

IRON—Pig, in Scotland ton	3 8 7	0 0
Bar, Welsh, in London	9 0 0	9 15 0
Do. do. at works in Wales	8 10 0	9 0 0
Do. Staffordshire, in London	9 15 0	11 15 0
COPPER British cake and ingot	75 0 0	76 0 0
Best selected	76 0 0	77 0 0
Sheets, strong	83 0 0	0 0 0
Chili bars	71 12 6	71 17 6
YELLOW METAL lb.	6¾d.	7d.
LEAD—Pig		
Spanish ton	17 12 6	. . .
English Com. Brands	17 17 6	. . .
Sheet, English, 6 lbs. per sq. ft. and upwards	19 7 6	. . .
Pipe	19 17 6	. . .
ZINC—		
Vieille Montagne ton	27 10 0	. . .
Silesian	27 10 0	. . .
Spelter	19 2 6	. . .
TIN—Straits	145 0 0	. . .
Australian	147 0 0	. . .
English Ingots	149 0 0	. . .
Banca	. . .	. . .
Billiton	. . .	. . .

ENGLISH SHEET GLASS IN CRATES.

1 oz. thirds	2¼d. per ft. delivered.
" fourths	2d. " "
21 oz. thirds	3d. " "
" " fourths	2¾d. " "
26 oz thirds	4d. " "
" " fourths	3½d. " "
32 oz. thirds	5d. " "
" " fourths	4½d. " "
Fluted sheet, 15 oz.	2¾d. " "
" " 21 "	3¾d. " "

OILS, &c.

Raw Linseed Oil in pipes, per ton	36 0 0	. . .
" " " in drums, per gal.	0 3 1	. . .
Boiled " " in pipes, per ton	38 0 0	. . .
" " " in drums, per gal.	0 3 4	. . .
TAR—Stockholm barrel	1 6 0	. . .
Archangel	1 0 0	. . .
Turpentine, in barrels, per cwt.	2 2 0	. . .
" in drums, per gal.	0 3 4	. . .
Genuine Ground English White Lead	26 10 0	. . .
Red Lead	22 13 0	. . .
Best Linseed Oil Putty, per cwt.	0 9 0	. . .

VARNISHES, &c.

	per gallon.
Fine Elastic Copal Varnish for outside work	0 16 6
Best Elastic Copal Varnish for outside work	1 0 0
Best Elastic Carriage Varnish for outside work	0 16 6
Best Hard Oak Varnish for inside work	0 10 6
Best Extra Hard Church Oak Varnish for inside work	0 10 6
Fine Hard Copal Varnish for inside work	0 16 0
Best Hard Copal Varnish for inside work	1 0 0
Best Hard Carriage Varnish for inside work	0 16 0
Extra Pale Paper Varnish	0 12 0
Best Japan Gold Size	0 10 0
Best Black Japan	0 16 0
Oak and Mahogany Stain	0 9 0
Brunswick Black	0 9 0
Berlin Black	0 15 6
Knotting	0 10 0
Best French and Brush Polish	0 10 0

BRICKS, &c.

	s. d.	
Hard Stocks	33 0	per thousand alongside, in river.
Rough Stocks and Grizzles	30 0	" " " "
Smooth Bright Facing Stocks	58 0	" " " "
Shippers	42 0	" " " "
Flettons	30 0	" " at railway depôt.
Red Wire Cuts	34 6	" " " "
Best Fareham Red	71 6	" " " "
Best Blue Pressed Staffordshire	87 0	" " " "
Best Stourbridge Fire Bricks	84 0	" " " "
Best White Glazed Stretchers	260 0	" " " "
Headers	240 0	" " " "
Quoins and Bull-nose	340 0	" " " "
Double Headers	320 0	" " " "
Best Dipped Salt Glazed Stretchers and Headers	240 0	" " " "
Quoins and Bull-nose	280 0	" " " "
Double Headers	230 0	per thousand at railway depôt.
Seconds Quality White and Dipped Salt Glazed	40 0	per thousand less than best.

PRICES CURRENT (*Continued*).

	s. d.	
Thames and Pit Sand	8 0	per yard, delivered
Thames Ballast	6 9	" "
Best Portland Cement	35 0	per ton "
Best Ground Blue Lias Lime	23 6	" "

NOTE.—The cement and lime is exclusive of the ordinary charge for sacks.

Grey Stone Lime ..... 12s. 6d. per yard, delivered.
Stourbridge Fire-clay in sacks, 32s. 6d. per ton at rly. dpt.

STONE.

	s. d.	
Ancaster in blocks	2 0	per ft. cube, deld. rly. depôt
Bath "	1 7	" "
Beer "	1 6½	" "
Grinshill "	1 10	" "
Brown Portland in blocks	2 2	" "
Dadley Dale "	2 1½	" "
Red Corsehill "	2 5	" "
Red Mansfield "	2 4½	" "
Hard York "	2 10	" "
Hard York 6 in. sawn both sides landings, to sizes (under 40 ft. sup.)	2 7	per ft. super at rly. depôt.
" " 6 in. Rubbed Ditto	2 10½	" "
" " 3 in. sawn both sides slabs (random sizes)	1 3	" "
" " 3 in. self-faced Ditto	0 9	" "

SLATES.

in. in.	£ s. d.	
20×10 best blue Bangor	11 5 0	per 1000 of 1200 at ry. dep.
" best seconds "	10 15 0	" "
16× 8 best "	6 2 6	" "
20×10 best blue Portmadoc	10 18 0	" "
16× 8 " "	6 0 0	" "
20×10 best Eureka unfading green	11 2 6	" "
16× 8 " "	6 15 0	" "
20×10 Permanent green and Sedan green	10 0 0	" "
16× 8 " "	5 12 6	" "

TILES.

	s. d.	
Best plain red roofing tiles	41 0	per 1,000 at rly. depôt.
Hip and valley tiles	3 7	per doz. " "
Best Broseley tiles	48 0	per 1,000 " "
Hip and valley tiles	4 0	per doz. " "
Best Ruabon Red, brown or brindled Do. (Edwards)	57 6	per 1,000 " "
Do. ornamental Do.	60 0	" " " "
Hip tiles	4 0	per doz. " "
Valley tiles	3 9	" " " "
Best Red or Mottled Staffordshire Do. (Peakes)	50 9	per 1,000 " "
Hip tiles	4 1	per doz. " "
Valley tiles	3 8	" " " "

TO CORRESPONDENTS.

G. G. (Below our limit). J. A. S.—J. D. (Amounts should have been stated).

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We cannot undertake to return rejected communications.

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TENDERS.

[Communications for insertion under this heading should be addressed to "The Editor," and must reach us *not later than 10 a.m. on Thursdays.* N.B.—We cannot publish Tenders unless authenticated either by the architect or the building-owner; and we cannot publish announcements of Tenders accepted unless the amount of the Tender is given, nor any list in which the lowest Tender is under £100, unless in some exceptional cases and for special reasons.]

* Denotes *accepted.* † Denotes *provisionally accepted.*

ALNWICK.—For the erection of a residence, Swansfield Park-road, for Mr. D. Fairgrieve. Mr. Geo. Reavell, jun., architect, Alnwick. Quantities by architect :—

Masonry.—C. Thompson & Son*.....
Joinery.—W. Forster & Son* .....
Plumbing.—Wilkin & Dickman*.....
Slating.—Jos. Purdie* .....
Plastering.—Thos. Wood* .....
Painting.—Jas. Wallace* .....
} £664 13

[*All of Alnwick.]

BAILDON.—For the erection of boundary wall and entrance gates for Mr. Geo. Ambler, of Baildon. Messrs. Isitt, Adkin & Hill, architects, Prudential-buildings, Bradford. Quantities by the architects :—

Obank & Sons	£935	0	0
Taylor & Ellis	779	7	0
Yeadon & Sons	764	11	0
Thos. Brown	728	14	10
Arthur Myers, Baildon*	£724	6	7
E. Whitfield	639	5	0
Stead & Son	637	1	0

BEXLEY HEATH (Kent). — For the erection of hospital buildings for the Bexley Urban District Council. Mr. W. T. Howse, surveyor, Public Offices, Bexley Heath :—

R. & J. Butler	£587	W. H. Smith	£571
Garlick & Crutchfield	580	T. Knight*	559

Iron building only.

Wrinch & Sons	£310	Humphreys, Ltd.	£294
W. Harbrow	295	Norton Bros.	292

BRIGHTON. — For additions to public library, museum, &c., Pavilion Estate, for the Town Council. Mr. F. J. C. May, C.E., Town Hall, Brighton :—

Parsons & Son	£38,160	Rowland Bros.	£37,835
Field & Co.	37,998	Longley & Co., Crawley*	37,680
General Builders, Limited	37,900		

BURTON-UPON-TRENT. — For the erection of stables, &c., Blakeley Lodge, Etwall, for the Corporation. Mr. G. T. Lynam, Borough Engineer, Burton-upon-Trent :—

W. A. Stevenson, Burton-on-Trent* £510

CLAYGATE (Surrey).—For a pair of detached villas in Gordon-road, Claygate, for the Hon. F. C. J. Foley. Mr. Herbert Knight, architect, 75, Aldermanbury, E.C.:—

Braid, Pater, & Co. £2,000

CLAYGATE (Surrey).—For a pair of semi-detached villas, Hare-lane, Claygate. Mr. Herbert Knight, architect, 75, Aldermanbury, E.C. :—

Haines & Stevens £1,000

CREWE.—For sewering Stewart-street for the Town Council. Mr. G. Eaton Shore, Borough Surveyor, Crewe :—

F. T. Bennie, Liverpool-road, Warrington .. £502 7

ESHER.—For three detached villas, Lee Estate, Esher, for Mr. C. C. Wyllie. Mr. Herbert Knight architect, 75, Aldermanbury, E.C. :—

Wheatley & Sons £4,200

HAYES (Kent).—For the erection of a pair of cottages, George-lane, Hayes, for Mr. A. C. Norman. Messrs. Waring & Nicholson, architects, 38, Parliament-street, Westminster :—

Douglas Payne	£761	T. D. Graty	£725
Arnaud & Son	748	Smith & Sons	718
Crossley & Son	740	J. Hutchings	630

HIGH WYCOMBE.—For the construction of roads, sewers, &c., for the Right Honourable Earl Carrington, G.C.M.G. Messrs. J. Carter Jonas & Sons, surveyors, Cambridge, :—

G. Wilson	£5,365	0	0
T. Adams	4,664	9	2
T. Smart	4,635	0	0
S. Kavanagh	4,615	0	0
W. Wadey	4,442	17	7
G. R. Mann	4,374	14	3
Wimpey & Co.	4,368	0	0
Hunt & Son	4,187	0	0
Wilson, Border, & Co.	4,040	2	2
Bentham & Co.	3,900	0	0
Free & Sons	3,897	0	0
Lee & Son, High Wycombe*	£3,746	0	0
J. C. Trueman	3,512	1	0
J. J. Trimm	3,252	8	8
G. Hebburn	3,221	0	0
Saunders & Co. (withdrawn)	3,093	0	0
R. Ballard (withdrawn)	2,997	0	0

HOVE (Sussex).—For road-making, paving, &c., High-down-road. Mr. H. H. Scott, Borough Surveyor, Town Hall, Hove :—

Messrs. Parsons & Sons, Church-road, Hove,* £989.

HUNSTANTON.—For making up parts of Crescent-road, &c., for the New Hunstanton Urban District Council :—

	Austin-street.	Park-road.	Crescent-road.	Sandringham-road.
J. Nelson	*£375 10..	£365 7 6..	£770 0..	*£122 10
R. Shanks	408 10..	*357 10 0 .	*447 10..	152 0
L. Leach	443 0..	427 0 0..	435 0..	265 0

LONDON.—For the erection of residential flats, Kennington-road and Walnut Tree-walk, Lambeth, for the Trustees of the Walcot Charity Estate. Messrs. Waring & Nicholson, architects, 38, Parliament-street, Westminster :—

Godson & Sons	£10,713	Sabey & Son	£9,695
T. L. Greene	10,573	Smith & Sons	9,629
H. & H. F. Higgs	10,364	Thomas & Edge	9,428
J. O. Richardson	10,358	Martin, Wells, & Co.	9,424
Balaam Bros.	10,284	Lapthorne & Co.	9,417
B. E. Nightingale	10,173	Wm. Smith	9,417
Chessum & Sons	9,993	C. Ansell	9,333
Howell J. Williams	9,986	H. L. Holloway	9,200
J. Appleby	9,970	John Marsland	9,165
Whitehead & Co.	9,875	Burman & Sons	8,700
J. Christie	9,860		

LONDON.—For alterations to basement of the "Windmill," Cannon-street, E.C., for Messrs. Worthington & Co., Limited. Mr. Herbert Knight, architect, 75, Aldermanbury, E.C. :—

Kirby £492

LONDON.—For rebuilding Nos. 71 and 72, Aldermanbury, E.C., for Mr. H. Bailey. Mr. Herbert Knight, architect, 75, Aldermanbury, E.C. :—

Braid, Pater, & Co. £4,500

LONDON.—For alterations at Bishopsgate Station Restaurant, for Messrs. R. Charles & Co. Mr. Herbert Knight, architect, 75, Aldermanbury, E.C. :—

Sage & Co. £650

LONDON.—For alterations and additions at Nos. 202, 204, and 206, Camberwell-road, for the Davis Gas Stove Company, Limited. Mr. T. Weir, architect, 17, Victoria-street, Westminster. Quantities by Mr. Fred. Burrows :—

Courtany & Fairburn	£4,089	Davenport	£3,849
Holliday & Greenwood	3,993	W. Smith	3,788
W. Johnson	3,981	H. Eames, Hill-street, Peckham*	3,700
V. Goad	3,929		

LONDON.—For alterations to the Manchester Hotel, Aldersgate-street, E.C., for the directors. Mr. Herbert Knight, architect, 75, Aldermanbury, E.C. :—

B. E. Nightingale £2,377

[*See also next page.*

LUTON.—For kerbing, channelling, and road-making the following streets. Mr. A. J. L. Evans, Borough Engineer :—

	Baker-street.	Albert-road.	Cowper-street.	Villa-road.	Tennyson-road.
Free & Sons, Maidenhead	£142 17 0	£573 10 0	£683 7 2	£297 9 7	£244 17 9
Port Victoria Stone Company, Bishopsgate-street, E.C.	140 10 0	562 10 0*	659 7 2	—	—
G. Powdrill, Luton	118 0 0*	587 8 0	615 0 0*	274 0 0	257 0 0
N. Bottoms, Luton	—	—	—	240 16 0*	—
Surveyor's Estimate	105 0 0	600 0 0	565 0 0	276 6 0	174 0 0*

LONDON.—For new premises in Brixton-road, for Messrs. Quin & Axtens. Mr. Herbert Knight, architect, 75, Aldermanbury, E.C. :—
Turtle & Appleton £5,695

LONDON.—For alterations and additions to Messrs. Hill & Sons' premises, Clarke's-passage, Bishopsgate-street, E.C. Mr. Herbert Knight, architect, 75, Aldermanbury, E.C. :—
Staines & Son £498

LONDON.—For alterations and additions to the "Green Dragon," Fleet-street, E.C., for Mr. T. R. Mander. Mr. Herbert Knight, architect, 75, Aldermanbury, E.C. :—

			Fittings.
Nicks & Co.	£5,360		£1,350

LONDON.—For carrying out certain alterations at St. Mark's Schools, Royal Mint-street, E., for the Rev. R. Rosenthal. Mr. W. A. Longmore, architect, Walthamstow :—

R. & E. Evans	£362	Trevan, Clapton*	£280
J. Sparks & Sons	293		

LONDON.—For alterations and additions to premises, Chalk Farm, N., for Messrs. Rickett, Cockerell, Limited. Messrs. Potts, Son, & Hennings, architects, 9, Ely-place, E.C. :—

	Alterations to House.	Alterations to Stable.	Total.
King & Sons	£940	£715 10	£1,655 10
E. Green	773	498 0	1,271 0
Mattock Bros.	691	433 0	1,124 0
Little & Senecal	649	369 0	1,018 0
Chessum & Sons	542	395 0	937 0
Lapthorne & Co.*	529	346 0	875 0

LUTON.—For the erection of engine-house, boiler-house, &c., for electricity works, St. Mary's-road, for the Town Council. Mr. A. J. L. Evans, C.E., Borough Engineer, Town Hall, Luton :—

P. Banyard	£5,995	W. G. Dunham	£5,287
Martin Wells, & Co.	5,477	Neville Bros.	4,881
Saunders & Son	5,450	Main, Kendall, & Main, Loughborough*	4,175
T. H. Coleman	5,390		
G. Smart	5,365		

PAIGNTON.—For the erection of pavilion and stand in the new recreation ground for Paignton Urban District Council. Mr. Alexander Leaman, architect, Paignton. Quantities by Mr. Vincent Cattermole Brown, of Paignton :—

R. F. Yeo	£1,525 0	T. Brown	£1,337 0
Bovey & Sons	1,415 0	G. Webber	1,275 0
W. Snearidge	1,356 10	H. Drew	1,174 0

Webber & Sons, Paignton (accepted with modifications), £1,138.

SANDBACH.—For the erection of shops, warehouses, &c., Elworth, for the Sandbach Co-operative Society, Limited. Mr. Alfred Price, architect, Elworth, Sandbach :—

Birchall Bros.	£1,930	J. Stringers, Sandbach*	£1,775

SHAW (Wiltshire).—For erecting cottages, Shaw, for Mr. J. H. Sadler. Mr. R. J. Beswick, architect, Swindon :—
A. J. Colborne, Newport-street, Swindon* £355

SURBITON.—For alterations and additions to Stainhill, Surbiton. Mr. Herbert Knight, architect, 75, Aldermanbury, E.C. :—
Wheatley & Sons £595

SWINDON.—For the erection of a pair of semi-detached villas in The Sands, for Mr. W. W. Hunter. Mr. R. J. Beswick, architect, 35, Regent-street, Swindon :—
H. C. Cook, Devizes-road, Swindon* £1,313 8

SWINDON.—For the erection of P.M. Chapel, Clifton-street, Swindon. Mr. R. J. Beswick, architecl, 35, Regent-street, Swindon :—
A. J. Colborne, Newport-street, Swindon* £1,180 0

SWINDON.—For the erection of surgery, Milton-road, Swindon, for Dr. B. H. Dale. Mr. R. J. Beswick, architect, Swindon :—
R. J. Leighfield, Witney-street, Swindon* £585

SWINDON.—For the erection of stables and stores, King-street, Swindon, for Mr. H. Harry. Mr. R. J. Beswick, architect, Swindon :—
H. C. Cook, Devizes-road, Swindon* £640 5

THIRSK (Yorks).—For the erection of a house, North Kilvington, for Mr. E. J. Meynell. Mr. Thomas Stokes, architect, Thirsk :—
The Whole.—W. Sixton, Sowerby, Thirsk £415 10 0
Bricklaying, Masonry, and Plastering.—J. R. Manfield, Thirsk* .....
Joinery.—J. H. Beck, Sowerby, Thirsk* .....
Plumbing and Glazing.—J. W. Jackson, Thirsk* £348 2 6
Painting.—T. White, Thirsk* .....

TOTNES.—For new Wesleyan church and schoolrooms for the trustees. Messrs. Bridgman & Bridgman, architects, Torquay and Paignton. Quantities by Mr. Vincent Cattermole Brown, of Paignton :—

W. A. Goss	£2,100 0	J. C. & W. Watson	£1,880 8
R. F. Yeo	2,082 12	T. Brook	1,727 10
Arscott & Son	1,941 0	Reeves & Son, Totnes*	1,711 0
T. Brown	1,888 0		

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